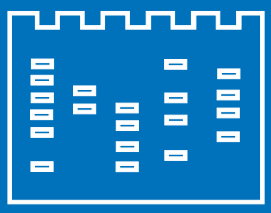
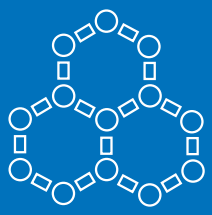
SERVA

Catalog 2023


Biochemicals Electrophoresis Life Science Bioseparation

Serving Scientists

ABTS

see 14364 2,2'-Azinobis(3-ethylbenzthiazoline-6-sulfonic acid)·2NH_4-salt, page 14

Acetic acid 100 % analytical grade

(Glacial acetic acid)
$C_2H_4O_2$ ♦ M_r 60.05 ♦ CAS [64-19-7]

DANGER
H226-H314 ♦ GGVSE/ADR 8 II UN2789 ♦ IATA 8 II UN2789 ♦ EINECS 200-580-7 ♦ WGK 1 L ♦ HS 29152100

Solvent widely utilized for various oxidation reactions. Used in fixing solutions of polyacrylamide gels.

Assay (GC)	min. 99.8 %
Density (20 °C)	1.05

Cat.No.	Size
45633.01	1 L
45633.02	2,5 L

Acetic acid 100 % for LC-MS

(Glacial acetic acid)
$C_2H_4O_2$ ♦ M_r 60.05 ♦ CAS [64-19-7]

DANGER
H226-H314 ♦ EG-Index 607-002-00-6 ♦ GGVSE/ADR 8 II UN2789 ♦ IATA 8 II UN2789 ♦ EINECS 200-580-7 ♦ HS 29152100

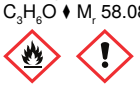
Additive for eluent phase for LC-MS.

Assay (GC)	min. 99.95 %
Refractive index (20 °C)	1.3711 - 1.3731
Water (KF)	≤ 0.1 %
Residue on evaporation	≤ 5 ppm
Transmittance	
254 nm	min. 30.0 %
260 nm	min. 80.0 %
270 nm	min. 95.0 %
280 nm	min. 97.0 %
Metal Compounds	
Al	max. 0.05 ppm
Fe	max. 0.2 ppm
Na	max. 0.5 ppm
Ca/K/Mg	max. 0.1 ppm

Cat.No.	Size
45638.01	50 ml

Acetone research grade

(2-Propanone; Dimethylketone)
C_3H_6O ♦ M_r 58.08 ♦ CAS [67-64-1]



DANGER
H225-H319-H336 ♦ EG-Index 606-001-00-8 ♦ GGVSE/ADR 3 II UN1090 ♦ IATA 3 II UN1090 ♦ EINECS 200-662-2 ♦ WGK 1 L ♦ HS 29141100

Solvent used in protein precipitation and as fixative in histology.

Assay (GC)	min. 99.0 %
Density (20 °C)	0.790 - 0.793
Water	max. 0.30 %

Cat.No.	Size
45632.01	1 L

Acetonitrile for HPLC

C_2H_3N ♦ M_r 41.05 ♦ CAS [75-05-8]

DANGER
H225-H302-H312-H319-H332 ♦ MAK/TRK 20 ml/m³; 34 mg/m³ ♦ EG-Index 608-001-00-3 ♦ GGVSE/ADR 3 II UN1648 ♦ IATA 3 II UN1648 ♦ EINECS 200-835-2 ♦ WGK 2L ♦ HS 29269095

Special grade for use as a mobile phase component in chromatographic techniques.

Assay (GC)	min. 99.9 %
Refractive Index	1.3430 - 1.3450
Minimum Transmission Levels	
1 cm cell compared against HPLC water	
220 nm	min. 98.0 %
254 nm	min. 98.0 %

Cat.No.	Size
45605.01	2,5 L

Acetonitrile for UHPLC-MS

C_2H_3N ♦ M_r 41.05 ♦ CAS [75-05-8]

DANGER
H225-H302-H312-H319-H332 ♦ EG-Index 608-001-00-3 ♦ GGVSE/ADR 3 II UN1648 ♦ IATA 3 II UN1648 ♦ EINECS 200-835-2 ♦ HS 29269070

Special grade for excellent performance in ultra high performance liquid chromatography-tandem mass spectrometry (UHPLC-MS/MS).

Assay (GC)	min. 99.99 %
Refractive index (20 °C)	1.342 - 1.346
Acidity	≤ 0.0003 meq/g
Alkalinity	≤ 0.0002 meq/g
Water (KF)	≤ 100 ppm
Residue on evaporation	≤ 1 ppm
Transmittance	
191 nm	min. 40.0 %
195 nm	min. 80.0 %
200 nm	min. 95.0 %
215 nm	min. 97.0 %
≥ 230 nm	min. 99.0 %
Absorbance	
220 nm	max. 0.01 AU
254 nm	max. 0.005 AU
Fluorescence (quinine)	
365 nm	max. 0.5 ppb
450 nm	max. 0.5 ppb
UHPLC gradient peak	
210 nm	max. 0.4 mAU
Drift at 210 nm	max. 6 mAU
Drift at 254 nm	max. 2 mAU
Test LC-MS TIC (50 – 2000 m/z)	
ES I(+)	
Sensitive impurities (reserpine)	max. 30 ppb
Metal Compounds	
Na/K/Ca	max. 50 ppb
Al/Fe/Mg	max. 20 ppb

Microfiltered, 0.1 µm

Cat.No.	Size
45634.02	2,5 L

Acetyl-L-leucyl-L-leucyl-L-argininal

see 51867 Leupeptin, page 64

Acetylthiocholine·iodide research grade

$C_7H_{16}N^+OS·I^-$ ♦ M_r 289.2 ♦ CAS [1866-15-5]

DANGER
H301-H312 ♦ GGVSE/ADR 6.1 III UN2811 ♦ IATA 6.1 III UN2811 ♦ EINECS 217-474-1 ♦ WGK 3L ♦ HS 29309099
Storage temperature +2 °C to +8 °C

Acetylthiocholine iodide is a substrate for the colorimetric determination of acetylcholinesterase activity (1). The liberated thiol group is estimated using 5,5'-dithiobis(2-nitrobenzoic acid) (2).

Assay (titr.) min. 98.0 %

References:

1. Ellman, G.L. et al. (1961) Biochem. Pharmacol. ***7,*** 88-95
2. Ellman, G. & Callaway, E. (1961) Nature ***192,*** 1216-7

Cat.No.	Size
10570.01	1 g
10570.02	5 g

Achromycin·HCl

see 35866 Tetracycline·HCl, page 134

Acid Blue 15

see 35053 SERVA Blue W, page 100

Acid Blue 83

see 35053 SERVA Blue R, page 100

Acid Blue 90

see 35050 SERVA Blue G, page 100

Acid Red 112

see 33429 Ponceau S, page 82

Acid Red 14

see 14410 Azorubin, page 14

Acid Red 87

see 21005 Eosin Y·Na-salt, page 38

Acid Violet 17

see 35072 SERVA Violet 17, page 111

Acid Violet 19

see 34597 Fuchsin acid, page 43

Acrylamide 2X research grade

C_3H_5NO ♦ M_r 71.1 ♦ CAS [79-06-1]

DANGER
H301-H312-H315-H317-H319-H332-H340-H350-H361f-H372 ♦ Muta. 1B, Carc. 1B, Repr. 2 ♦ MAK/TRK 0,03mg/m³ ♦ EG-Index 616-003-00-0 ♦ GGVSE/ADR 6.1 III UN2074 ♦ IATA 6.1 III UN2074 ♦ EINECS 201-173-7 ♦ WGK 3L ♦ HS 29241900
Storage temperature +2 °C to +8 °C

Standard quality, applicable to general electrophoretic separations.

Assay (HPLC)	min. 98.0 %
A 290 nm	max. 0.7 (5 %)
pH	5.0 - 8.0 (5 %)
Conductivity (µS/cm)	max. 100 (40 %)
Acrylic acid (titr.)	max. 0.03 %

Cat.No.	Size
10675.02	1 kg

Acrylamide 4X analytical grade

C_3H_5NO ♦ M_r 71.1 ♦ CAS [79-06-1]

DANGER
H301-H312-H315-H317-H319-H332-H340-H350-H361f-H372 ♦ Muta. 1B, Carc. 1B, Repr. 2 ♦ MAK/TRK 0,03 mg/m³ ♦ EG-Index 616-003-00-0 ♦ GGVSE/ADR 6.1 III UN2074 ♦ IATA 6.1 III UN2074 ♦ EINECS 201-173-7 ♦ WGK 3L ♦ HS 29241900
Storage temperature +2 °C to +8 °C

Quality of analytical grade, applicable to all electrophoresis techniques. Recrystallized. Polymerizing time: max. 30 min (3 mM TEMED / 3 mM APS, 15 % gel).

Assay (HPLC)	min. 99.0 %
A 290 nm	max. 0.6 (5 %)
pH	5.0 - 8.0 (5 %)
Conductivity (µS)	max. 20 (40 %)
Content of free acrylic acid	max. 0.002 %

Cat.No.	Size
10674.03	1 kg

Acrylamide 4X molecular biology grade

C_3H_5NO ♦ M_r 71.1 ♦ CAS [79-06-1]

DANGER
H301-H312-H315-H317-H319-H332-H340-H350-H361f-H372 ♦ Muta. 1B, Carc. 1B, Repr. 2 ♦ MAK/TRK 0,03mg/m³ ♦ EG-Index 616-003-00-0 ♦ GGVSE/ADR 6.1 III UN2074 ♦ IATA 6.1 III UN2074 ♦ EINECS 201-173-7 ♦ WGK 3L ♦ HS 29241900
Storage temperature +2 °C to +8 °C

DNase and RNase: non-detectable. Special quality for use in molecular biological applications as well as all electrophoresis techniques.

Assay (GC)	min. 99.0 %
A 290 nm	max. 0.6 (5 %)
pH	5.0 - 8.0 (5 %)
Conductivity (µS)	max. 20 (40 %)
Content of free acrylic acid	max. 0.002 %

Cat.No.	Size
10678.02	100 g

Acrylamide 4X Solution (40 % w/v)

DANGER
H302-H312-H315-H317-H319-H340-H350-H361f-H372 ♦ Muta. 1B, Carc. 1B, Repr. 2 ♦ GGVSE/ADR 6.1 III UN3426 ♦ IATA 6.1 III UN3426 ♦ WGK 3 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Solution contains 40 % (w/v) highly purified acrylamide in deionized water.

A 290 nm	max. 0.6 (5 %)
pH	6.0 - 8.0 (5 %)
Conductivity (µS)	max. 100
Content of free acrylic acid	max. 0.03 %

Cat.No.	Size
10677.01	1 L

Acrylamide/Bis Solution, 19:1 (40 % w/v), 5 % C

DANGER
H302-H312-H315-H317-H319-H340-H350-H361f-H372 ♦ Muta. 1B, Carc. 1B, Repr. 2 ♦ GGVSE/ADR 6.1 III UN3426 ♦ IATA 6.1 III UN3426 ♦ WGK 3 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Solution of acrylamide and N,N'-methylene bisacrylamide (Bis) in deionized water. Convenient to use, reduced risk of neurotoxic acrylamide dust in the air. Applicable to all electrophoresis techniques.

A 290 nm	< 0.7 (5 %)
pH	6.0 - 8.0 (5 %)
Conductivity (µS)	< 100
Content of free acrylic acid	< 0.03 %

Cat.No.	Size
10679.01	500 ml
10679.02	4 x 500 ml
10679.03	1 L

Acrylamide/Bis Solution, 29:1 (30 % w/v), 3.3 % C

DANGER
H302-H312-H315-H317-H319-H340-H350-H361f-H372 ♦ Muta. 1B, Carc. 1B, Repr. 2 ♦ GGVSE/ADR 6.1 III UN3426 ♦ IATA 6.1 III UN3426 ♦ WGK 3 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Solution of acrylamide and N,N'-methylene bisacrylamide (Bis) in deionized water. Convenient to use, reduced risk of neurotoxic acrylamide dust in the air. Applicable to all electrophoresis techniques.

A 290 nm	< 0.7 (5 %)
pH	6.0 - 8.0 (5 %)
Conductivity (µS)	< 100
Content of free acrylic acid	< 0.03 %

Cat.No.	Size
10687.01	500 ml
10687.02	4 x 500 ml
10687.03	1 L

Acrylamide/Bis Solution, 29:1 (40 % w/v), 3.3 % C

DANGER
H302-H312-H315-H317-H319-H340-H350-H361f-H372 ♦ Muta. 1B, Carc. 1B, Repr. 2 ♦ GGVSE/ADR 6.1 III UN3426 ♦ IATA 6.1 III UN3426 ♦ WGK 3 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Solution of acrylamide and N,N'-methylene bisacrylamide (Bis) in deionized water. Convenient to use, reduced risk of neurotoxic acrylamide dust in the air. Applicable to all electrophoresis techniques.

A 290 nm	< 0.7 (5 %)
pH	6.0 - 8.0 (5 %)
Conductivity (µS)	< 100
Content of free acrylic acid	< 0.03 %

Cat.No.	Size
10680.01	500 ml
10680.02	4 x 500 ml
10680.03	1 L

Acrylamide/Bis Solution, 37.5:1 (30 % w/v), 2.6 % C

DANGER
H302-H312-H315-H317-H319-H340-H350-H361f-H372 ♦ Muta. 1B, Carc. 1B, Repr. 2 ♦ GGVSE/ADR 6.1 III UN3426 ♦ IATA 6.1 III UN3426 ♦ WGK 3 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Solution of acrylamide and N,N'-methylene bisacrylamide (Bis) in deionized water. Convenient to use, reduced risk of neurotoxic acrylamide dust in the air. Applicable to all electrophoresis techniques.

A 290 nm	< 0.7 (5 %)
pH	6.0 - 8.0 (5 %)
Conductivity (µS)	< 100
Content of free acrylic acid	< 0.03 %

Cat.No.	Size
10688.01	500 ml
10688.02	4 x 500 ml
10688.03	1 L

Acrylamide/Bis Solution, 37.5:1 (40 % w/v), 2.6 % C

DANGER
H302-H312-H315-H317-H319-H340-H350-H361f-H372 ♦ Muta. 1B, Carc. 1B, Repr. 2 ♦ GGVSE/ADR 6.1 III UN3426 ♦ IATA 6.1 III UN3426 ♦ WGK 3 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Solution of acrylamide and N,N'-methylene bisacrylamide (Bis) in deionized water. Convenient to use, reduced risk of neurotoxic acrylamide dust in the air. Applicable to all electrophoresis techniques.

A 290 nm	< 0.7 (5 %)
pH	6.0 - 8.0 (5 %)
Conductivity (µS)	< 100
Content of free acrylic acid	< 0.03 %

Cat.No.	Size
10681.01	500 ml
10681.02	4 x 500 ml
10681.03	1 L

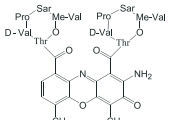
Actidione®

see 10700 Cycloheximide, page 30

Actinase E

see 33635 Pronase E from *Streptomyces griseus* min. 5 DMC-U/mg, page 83

Actinomycin D cryst. research grade



(Dactinomycin; Actinomycin C_1)
$C_{62}H_{86}N_{12}O_{16}$ ♦ M_r 1255.5 ♦ CAS [50-76-0]

DANGER
H300 ♦ GGVSE/ADR 6.1 II UN2811 ♦ IATA 6.1 II UN2811 ♦ EINECS 200-063-6 ♦ WGK 3L ♦ HS 29419000
Storage temperature +2 °C to +8 °C

Chromopeptide with antibiotic activity. Contains 2 cyclic peptides bound to the chromophoric phenoxazone ring. Binds specifically to the minor groove of the DNA double helix, and thus prevents it from being a template for RNA synthesis. Antineoplastic agent which inhibits the growth of rapidly dividing cells. Induces apoptosis in cancer cells. Used as a selective agent in cell culture.

References:

1. Meienhofer, B. & Atherton, E. (1977) Adv. Appl. Microbiol. ***16,*** 203
2. Kleef, J. et al. (2000) Int. J. Cancer ***86***, 399-407
3. Narita, Y. et al. (2000) Cancer Chemother. Pharmacol. ***45***, 149-56

Cat.No.	Size
10710.01	5 mg

Activated Charcoal

see 30890 Norit® A, page 76

Adapter Set (2 x 2)

HS 90272000

Cat.No.	Size
AS-01	1 kit

Adenine analytical grade

(6-Aminopurine)
$C_5H_5N_5$ ♦ M_r 135.1 ♦ CAS [73-24-5]

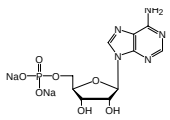
DANGER
H301 ♦ GGVSE/ADR 6.1 III UN2811 ♦ IATA 6.1 III UN2811 ♦ EINECS 200-796-1 ♦ WGK 1 ♦ HS 29335995

Synthetic, therefore free of any contamination with related natural products. It is used as media component in cell culture of mammalian cells, yeast and plants.

Assay (titr.)	98.0 - 102.0 %

Cat.No.	Size
10739.02	25 g

Adenosine-5'-phosphate·Na_2-salt analytical grade



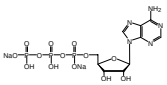
(AMP)
$C_{10}H_{12}N_5O_7P{\cdot}Na_2{\cdot}7H_2O$ ♦ M_r 517.2 ♦ CAS [4578-31-8]
EINECS 224-96 1-2 ♦ WGK 1 ♦ HS 29389090
Storage temperature +2 °C to +8 °C
Adenosine 5´-monophosphate (5´-AMP) is a substrate of enzymes such as AMP deaminase or 5´-nucleotidase and an activator of AMP-activated protein kinases.

Assay (HPLC)	min. 95.0 %
Water (KF)	max. 26.0 %

Cat.No.	Size
10883.01	5 g

Adenosine-5'-triphosphate·Na_2-salt cryst. research grade

(ATP)
$C_{10}H_{14}N_5O_{13}P_3 \cdot Na_2$ ♦ M_r 551.1 ♦ CAS [987-65-5]



EINECS 213-579-1 ♦ WGK 1 ♦ HS 29389090
Storage temperature -15 °C to -25 °C

Adenosine 5'-triphosphate (ATP) is a substrate of many kinases involved in cell signaling and of adenylate cyclases. ATP provides the metabolic energy to drive metabolic pumps. It serves as a coenzyme in a wide array of enzymatic reactions and is used for tissue preparation

Assay (HPLC)	min. 98.0 %
Water (KF)	max. 8.0 %

Cat.No.	Size
10920.02	5 g
10920.03	25 g

Adogen 464

see 37076 Trioctylmethylammonium chloride, page 137

AEBSF-HCl research grade

(4-(2-Aminoethyl)-benzene sulfonyl fluoride hydrochloride)
$C_8H_{10}FNO_2S \cdot HCl$ ♦ M_r 239.7 ♦ CAS [30827-99-7]

WGK 1 ♦ HS 29214900
Storage temperature +2 °C to +8 °C

Irreversible inhibitor of thrombin and other serine proteases (e.g. chymotrypsin, kallikrein, plasmin, proteinase K, trypsin). Inhibits by acylation of the active site of the enzyme. AEBSF is water-soluble and much less toxic than PMSF and DFP. Aqueous solutions are stable between pH 5 - 6; limited stability above pH 7.5.

Assay (HPLC)	min. 98.0 %

References:
1. Walsmann, P. et al. (1972) Acta biol. med. germ. ***28***, 577-585
2. Marwardt, F. et al. (1973) Thrombosis Res. ***2***, 343-348
3. Taylor, J.A. et al. (1995) Immunology ***86***, 629-635

Cat.No.	Size
12745.03	1 g

Aerosporin

see 47976 Polymyxin-B·sulfate, page 82

Agar Agar SERVA powder analytical grade

CAS [9002-18-0]

EINECS 232-658-1 ♦ WGK 1 ♦ HS 13023100

Highly purified. Suitable for immunodiffusion.

Gel strength (g/cm², 1.5 % gel)	min. 600
Point of solidification	39 - 43 °C
Loss on drying	max. 10.0 %
Ash	max. 4.0 %
pH (1,5%) in water (60 °C)	6.5 - 7.5

Cat.No.	Size
11393.03	250 g
11393.04	1 kg

Agar Agar SERVA High Gel-Strength powder research grade

CAS [9002-18-0]

EINECS 232-658-1 ♦ WGK 1 ♦ HS 13023100

Choice quality for *in vitro* culture of plants or bacteriology, no turbidity with phosphates.

Gel strength (g/cm², 1.5 % gel)	min. 700
Point of solidification	34 - 38 °C
Loss on drying	max. 10.0 %
Ash	max. 4 %
pH 1.5 % in water (60 °C)	6.0 - 8.0

Cat.No.	Size
11396.02	250 g
11396.03	1 kg
11396.04	5 kg

Agar Agar SERVA Kobe I in stripes, research grade

CAS [9002-18-0]

EINECS 232-658-1 ♦ WGK 1 ♦ HS 13023100

Threadlike, bleached; tested for use in nutrient media.

Gel strength (g/cm², 1.5 % gel)	> 400
Point of solidification	30 - 40 °C
Loss on drying	max. 25.0 %
Ash	max. 6.5 %
pH 1.5 % in water (60 °C)	5.0 - 8.0

Cat.No.	Size
11395.03	1 kg
11395.04	5 kg

Agar Agar SERVA Kobe I powder, research grade

CAS [9002-18-0]

EINECS 232-658-1 ♦ WGK 1 ♦ HS 13023100

Choice quality for bacteriology.

Gel strength (g/cm², 1.5 % gel)	min. 800
Point of solidification	35 - 42 °C
Loss on drying	max. 22.0 %
Ash	max. 1.5 %
pH 1.5 % in water (60 °C)	5.0 - 8.0

Cat.No.	Size
11392.03	1 kg
11392.04	5 kg

Agar Substitute

see 22168 Gelrite®, page 45

Agarose SERVA 3:1 molecular biology grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ HS 39139000

Unique mixture of agarose formulated for high resolution of small (10 bp - 1000 bp) DNA, RNA and PCR fragments. High purity for low background even at high gel concentrations (up to 6 % in 1x TAE buffer). Optimized gel strength for easy-to-handle gels. Special quality tested for applications in molecular biology. Manufactured using an innovative organic solvent-free manufacturing process.

Gelling temperature (1.5 %)	max. 36 °C
Gel strength (1.5 %)	min. 650 g/cm²
Electro endosmosis (EEO)	≤ 0.1

Cat.No.	Size
11385.01	25 g
11385.02	100 g

Agarose SERVA research grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ WGK 1 ♦ HS 39139000

Agarose with low EEO for analytical and preparative gel electrophoresis and blotting of DNA/RNA fragments > 500 bp.

Gelling temperature (1.5 %)	34 - 38 °C
Gel strength (1.5 %)	> 1100 g/cm²
Electro endosmosis (EEO)	0.05 - 0.13

Cat.No.	Size
11380.02	100 g
11380.03	250 g
11380.05	500 g

Agarose SERVA Wide Range molecular biology grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ HS 39139000

For analytical and preparative electrophoresis and blotting of DNA/RNA fragments between 250 and 23,000 bp, PCR products, preparation of plasmids, screening and cleaning. Tested for applications in molecular biology.

Gelling temperature (1.5 %)	34 - 39 °C
Gel strength (1.5 %)	min. 1200 g/cm²
Electro endosmosis (EEO)	≤ 0.13

Cat.No.	Size
11406.01	250 g
11406.02	500 g
11406.03	1 kg

Agarose SERVA for DNA Electrophoresis research grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ WGK 1 ♦ HS 39139000

For analytical and preparative electrophoresis of DNA fragments between 1000 and 20,000 bp. Each lot is tested for the absence of *EcoRI* inhibition.

Gelling temperature (1.5 %)	34 - 39 °C
Gel strength (1.5 %)	min. 1700 g/cm²
Electro endosmosis (EEO)	≤ 0.13

Cat.No.	Size
11404.03	100 g
11404.04	250 g
11404.07	500 g
11404.05	1 kg

Agarose SERVA Low Melting research grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ WGK 1 ♦ HS 39139000

For analytical and preparative nucleic acid electrophoresis of DNA/RNA fragments > 500 bp. Highly efficient recovery of DNA fragments at low temperature for subsequent in-gel manipulations like restriction analysis or ligation reactions.

Gelling temperature (1.5 %)	max. 31 °C
Gel strength (1.5 %)	> 200 g/cm²
Electro endosmosis (EEO)	0.05 - 0.14

Cat.No.	Size
11408.01	5 g
11408.02	25 g

Agarose SERVA Premium molecular biology grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ WGK 1 ♦ HS 39139000

For analytical and preparative gel electrophoresis of DNA/RNA fragments > 500 bp, recovery of DNA fragments for further modifications (restriction analysis, ligation reactions), blotting of nucleic acids. Special quality tested for applications in molecular biology.

Gelling temperature (1.5 %)	34 - 38 °C
Gel strength (1.5 %)	> 1100 g/cm²
Electro endosmosis (EEO)	0.05 - 0.13

Cat.No.	Size
11381.02	100 g
11381.03	250 g

Agarose SERVA Premium Low Melting molecular biology grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ WGK 1 ♦ HS 39139000

For efficient separation of DNA/RNA fragments > 500 bp, best for in-gel enzymatic processing like restriction analysis, ligation reactions, PCR and others. Ideal for digestion by agarase enzymes, making it very easy to recover or to analyse large DNA fragments by cloning or other enzymatic applications. Special tested quality for applications in molecular biology.

Gelling temperature (1.5 %)	24 - 28 °C
Gel strength (1.5 %)	> 500 g/cm²
Electro endosmosis (EEO)	≤ 0.12

Cat.No.	Size
11382.01	25 g
11382.02	100 g

Agarose SERVA for PCR molecular biology grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ WGK 1 ♦ HS 39139000

For analytical and preparative electrophoresis of PCR and DNA fragments > 40 bp and < 1000 bp; special quality tested for applications in molecular biology. High gel strength for better handling and enhanced visibility due to improved clarity of the gel.

Gelling temperature (1.5 %)	28 - 34 °C
Gel strength (1.5 %)	> 600 g/cm²
Electro endosmosis (EEO)	≤ 0.12

Cat.No.	Size
11383.02	100 g

Agarose SERVA for PCR Low Melting molecular biology grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ WGK 1 ♦ HS 39139000

For analytical and preparative electrophoresis of PCR and DNA fragments > 40 bp and < 1000 bp. Special quality tested for applications in molecular biology. Best for fine resolution at agarose concentrations ranging from 1.8 % up to 4.5 %. Best for in-gel enzymatic processing. Ideal for digestion by agarase enzymes. Easy to recover small DNA fragments for subsequent analysis or for enzymatic modifications.

Gelling temperature (1.5 %)	ca. 26 °C
Gel strength (1.5 %)	> 200 g/cm²
Electro endosmosis (EEO)	≤ 0.10

Cat.No.	Size
11384.01	25 g
11384.02	100 g

Agarose SERVA High EEO

CAS [9012-36-6]

EINECS 232-731-8 ♦ WGK 1 ♦ HS 39139000

Special preparation for immunoelectrophoresis (esp. precipitation) with relatively high electroendosmosis and low gelling point.

Gelling temperature (1.5 %)	34 - 39 °C
Gel strength (1.5 %)	> 1300 g/cm²
Electro endosmosis (EEO)	0.23 - 0.27

Cat.No.	Size
11397.04	250 g

Agarose SERVA Neutral for IEF

CAS [9012-36-6]

EINECS 232-731-8 ♦ WGK 1 ♦ HS 39139000

Premium grade for isoelectric focusing. Chemically treated agarose to neutralize residual negative charge sites, virtually eliminating electroendosmosis.

Gel strength (1.5 %)	> 800 g/cm²
Electro endosmosis (EEO)	0

Cat.No.	Size
11402.02	5 g

Agarose SERVA Tablets, 0.5 g/Tablet molecular biology grade

CAS [9012-36-6]

EINECS 232-731-8 ♦ HS 39139000

Agarose pressed into tablets of 0.5 g each. For analytical and preparative electrophoresis of DNA fragments between 200 and 20,000 bp. Special quality tested for applications in molecular biology.
There is no need to weigh the agarose. Just simply disperse the requested number of tablets in running buffer for 5 minutes at room temperature and then heat the suspension in a microwave until the material is dissolved.
The achieved gel volume per tablet for different agarose concentrations is listed below:

% agarose	**gel volume/tablet**
0.5 %	100.0 ml
0.75 %	66.7 ml
1.0 %	50.0 ml
1.5 %	33.3 ml
2.0 %	25.0 ml

Gel. temp. (1.5 %)	34 - 39 °C
Gel strength (1.5 %)	> 1000 g/cm^2
Electro endosmosis (EEO)	≤ 0.13

Cat.No.	Size
11405.01	100 g

Albumin Bovine cryst. lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

The purest form of our bovine albumins. Manufacturing includes a proprietary heat-shock fractionation process, ion exchange treatment and triple sequential crystallization, resulting in an extremely pure product. Best suited for use in highly sensitive systems requiring consistent protein background and as standard for protein quantification and molecular weight determination. As well used as hapten carrier for antibody production, as stabilizer of enzymes and other sensitive biopolymers and in diverse molecular biology applications. Crystal form simplifies handling and weighing.

Assay (CAF)	min. 99.0 %
pH (7 % in H_2O)	5.0 - 5.4
Moisture (KF)	max. 5.0 %

Cat.No.	Size
11920.02	1 g
11920.04	10 g
11920.06	50 g

Albumin Bovine Fraction V, pH 7.0 standard grade, lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Manufactured by a proprietary heat-shock fractionation process, using caprylic acid as an albumin stabilizer. Standard quality for many applications: protein standard, growth promoter in serum-free media for the cultivation of animal cells, supplement in microbiological nutrient media, diluent/stabilizer in diagnostic systems and of isolated enzymes, peptides or antibodies as well as blocking agent to prevent non-specific absorption in immunoassays like Western Blots, ELISA systems.

Assay (CAF)	min. 98.0 %
pH (7 % in H_2O)	6.8 - 7.2
Moisture (KF)	max. 5 %
Iron (µg/g, AA)	max. 15
IgG	not detectable

Cat.No.	Size
11930.01	10 g
11930.02	25 g
11930.03	100 g
11930.04	500 g

Albumin Bovine Fraction V, pH 5.2 standard grade, lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Manufactured in a similar way as cat. no. 11930 but with adjustment to pH 5.2 prior to lyophilization. Special quality for serology, antibody enhancement, bacterial and animal culture media.

Assay (CAF)	min. 98.0 %
pH (7 % in H_2O)	5.2 - 5.6
Moisture (KF)	max. 5.0 %

Cat.No.	Size
11922.02	25 g
11922.03	100 g

Albumin Bovine Fraction V receptor grade, lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Produced by a proprietary heat-shock fractionation with additional solvent treatment. Contains extremely low levels of heavy metals, alkaline earths, fatty acids, and low molecular weight impurities. First choice for diagnostic systems. Best suited as well for *in vitro* transport and binding studies, in perfusion media for analysis of hormone effects, as hapten carrier for antibody production, stabilisator for enzymes, peptides and antibodies and standard for protein quantification and molecular weight determination.

Assay (CAF)	min. 98.0 %
pH (7 % in H_2O)	6.8 - 7.2
Moisture (KF)	max. 5.0 %
Total lipids (mg/g)	max. 3.5
Fatty acids (mg/g)	max. 1
Iron (µg/g, AA)	max. 5
Heavy metals (µg/g, AA)	max. 20
Calcium (mg/g, AA)	max. 0.5
IgG	not detectable

Cat.No.	Size
11924.02	25 g
11924.03	100 g
11924.04	500 g

Albumin Bovine Fraction V, Protease-Free lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Manufactured by a proprietary heat-shock fractionation process; double heated to insure inactivation of proteolytic activity. Excellent for protease sensitive immunoassays, for stabilisation of proteins and enzymes in buffers and before lyophilization. Stabilizer for long-term storage of highly diluted antibodies. Blocking agent to prevent non-specific binding of proteins in immunoassays like Western Blots, ELISA systems.

Assay (CAF)	min. 98.0 %
Protease (Casein hydrolysis)	not detectable
pH (7 % in H_2O)	6.8 - 7.2
Moisture (KF)	max. 5.0 %
IgG	not detectable

Cat.No.	Size
11926.01	5 g
11926.02	25 g
11926.03	100 g
11926.04	500 g

Albumin bovine Fraction V, Protease-free, low IgG lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Specially suitable BSA for protease-sensitive immunoassays and to stabilise peptides, proteins and enzymes in buffer solutions and prior to freeze-drying and highly diluted antibody solutions for long-term storage. Because of the low IgG content this BSA is recommended for blocking of non-specific adsorption of proteins in immunoassays such as Western blots, ELISA. Produced by a proprietary heat-shock method, designed to prevent the excessive use of denaturing organic solvents. EU origin.

Total protein	> 92 %
Albumin purity	≥97 %
Protease	not detected
IgG (ng/mg)	< 100
pH (10 % in H2O)	6.5 - 7.4
Moisture (LOD)	max. 5.0 %

Cat.No.	Size
11948.01	25 g
11948.02	100 g
11948.03	500 g

Albumin Bovine Fraction V, Fatty Acid-Free lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Produced by a proprietary heat-shock/solvent fractionation process. Suitable for *in vitro* binding and transport studies and in diagnostic systems.

Assay (CAF)	min. 98.0 %
pH (7 % in H_2O)	6.8 - 7.2
Total lipids (mg/g)	max. 2
Fatty acids (mg/g)	max. 0.2
Moisture (KF)	max. 5.0 %

Cat.No.	Size
11932.02	25 g
11932.03	100 g

Albumin Bovine Fraction V, Protease and Fatty Acid-Free diagnostic grade, lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Highly purified albumin, especially designed for protease-sensitive immunoassays, such as RIA and EIA. Suitable as protein standard, diluent, enzyme stabilizer. Can be used also in hybridization and nucleic acid based assays as well as in fatty acid sensitive cell culture systems.

Assay (CAF)	min. 98.0 %
pH (10 % in H_2O)	6.5 - 7.5
Protease	max. 0.005 U/mg
Fatty acids	max. 0.01%
IgG	not detected

Cat.No.	Size
11945.01	10 g
11945.02	25 g
11945.03	100 g
11945.04	500 g

Albumin Bovine Fraction V, pH 7.0 Life Science grade, lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Highly purified albumin ideal for use in biotechnology, cell culture, diagnostics, research and other Life Science applications.
First isolated by a proprietary heat shock/organic solvent process and further purified by non-solvent based methodologies to reduce IgG and endotoxins to very low levels.
Contains > 90 % monomeric albumin that retains many of the binding, transfer and physical properties of native albumin.

Purity (CAF)	≥ 98.0 %
pH (1 % in 0.15 NaCl)	6.8 - 7.2
Moisture (Lod)	≤ 5.0 %
Heavy metals	≤ 20 ppm
IgG	≤ 50 µg/g
Mycoplasma	none detected
Viral agents	none detected

Cat.No.	Size
11946.02	100 g

Albumin Bovine cell culture grade

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature -15 °C to -25 °C

Cohn Analog. Specially purified albumin with an almost native composition of lipids, fatty acids and other cofactors which are important for cell culture. Suitable as cell growth supplement.

Purity (CAF)	min. 96.0 %
pH (10 % in H_2O)	6.5 - 7.5
Endotoxins	max. 3 EU/mg

Cohn Analog = registered trademark of Proliant Biologicals, USA.

Cat.No.	Size
47330.01	10 g
47330.03	100 g

Albumin Bovine Low Endotoxin biotechnology grade

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature -15 °C to -25 °C

Tested negative for mycoplasma and the bovine viruses BVD, IBR, P13, Adeno, Parvo, Rabies, Reo and Bluetongue, in accordance with 9 CFR 113. Suitable as growth promoter in serum-free media for the cultivation of animal cells and as supplement in microbiological media.

Assay (CAF)	min. 97.0 %
pH (7 % in H_2O)	5.0 - 6.0
Moisture (KF)	0 - 8.0 %
Endotoxin (LAL)	max. 10 EU/mg
IgG	not detectable

Cat.No.	Size
47321.01	25 g

Albumin Bovine Modified Cohn Fraction V, pH 7.0 lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Produced by a modification of the Cohn procedure, including a proprietary heat-shock method and further purification steps by extensive membrane dialysis and filtration. Suitable as protein standard, in ELISA and blotting techniques, as diluent/stabilizer in diagnostic systems and in serology and as stabilizer for isolated enzymes, peptides or antibodies.

Assay (CAF)	min. 98.0 %
pH (10 % in H_2O)	6.5 - 7.5
Protease	max. 0.005 U/mg

Cat.No.	Size
11943.01	25 g
11943.02	100 g
11943.03	500 g

Albumin Bovine Fraction V, Very Low Endotoxin lyophil.

(BSA)
M_r ca. 67 000 ♦ CAS [9048-46-8]

EINECS 232-936-2 ♦ WGK 1 ♦ HS 35029020
Storage temperature -15 °C to -25 °C

Manufactured by a proprietary heat-shock fractionation process, using caprylic acid as an albumin stabilizer. The production process includes steps to ensure low endotoxin and IgG levels. Tested negative for mycoplasma and the bovine viruses BVD, IBR, P13, Adeno, Parvo, Rabies, Reo and Bluetongue, in accordance with 9 CFR 113.
Especially designed as nutrient in serum-free cell culture media. Suitable in perfusion media for hormone response studies and as hapten carrier for antibody production.

Assay (CAF)	min. 98.0 %
pH (7 % in H_2O)	6.8 - 7.2
Moisture (KF)	max. 5.0 %
Endotoxin (LAL)	max. 2 EU/mg

Cat.No.	Size
47324.03	25 g

Albumin Bovine, 30 % Solution, Polymer Enhanced

(BSA)
M_r ca. 67 000

WGK 1 ♦ HS 35029020
Storage temperature +2 °C to +8 °C

Higher avidity exclusively controlled through pure albumin polymerisation. Does not contain artificial avidity enhancers or high molecular weight agglutination potentiators (e.g. PVP, gum acacia, or dextran). Does not contain caprylic acid or other stabilizers. IgG not detectable. Suitable as diluent/stabilizer in various RIA and EIA test systems, for various serological reagents, and for cross-matching procedures and antibody screening or titration.

Protein (Biuret)	29 - 31 g/dL
pH	7.2 - 7.4
NaCl (coulometric titrator)	0.6 - 0.7 g/dL
Preservative (sodium azide)	≦ 0.1 g/dL

Cat.No.	Size
11937.02	100 ml

Albumin egg (ovalbumin) lyophil.

M_r ca. 45 000

HS 35021110
Storage temperature -15 °C to -25 °C

Purity (SDS PAGE)	min. 90 %
Loss on drying	max. 6.0 %

Cat.No.	Size
11842.01	1 g
11842.02	5 g

t

Alcian Blue 8 GS

(Alcian Blue 8GX)
C.I.74240 ♦ M_r 1928.86 ♦ CAS [75881-23-1]

EINECS 278-333-8 ♦ WGK 2L ♦ HS 32041900

Copper phthalocyanine dye. Stain for glycoproteins in electron microscopy (1). In electrophoresis (2, 3). For determination of glycosaminoglycans (4, 5).

λ max.	6055 - 625 nm
A 1 cm/0.001 % in H_3COOH 3%/ λmax.	min. 0.14

References:

1. Mowry, R.W. (1956) J. Histochem. Cytochem. ***4,*** 407
2. Wardi, A.H. & Allen, W.S. (1972) Anal. Biochem. ***48,*** 621-3
3. Wardi, A.H. & Michos, G.A. (1972) Anal. Biochem. ***49,*** 607-9
4. O'Brien, J.F. & Emmerling, M.E. (1978) Anal. Biochem. ***85,*** 377-86
5. Kanwar, Y.S. & Farquhar, M.G. (1979) Proc. Natl. Acad. Sci. USA ***76,*** 4493-7

Cat.No.	Size
12021.01	10 g

Aliquat® 336

see 37076 Trioctylmethylammonium chloride, page 137

Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein (ca. 60 U/µl) solution

(Orthophosphoric-monoester phosphohydrolase (alkaline optimum))
EC 3.1.3.1. ♦ M_r ca. 140 000

DANGER
H334 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

Especially suitable for the preparation of EIA-conjugates. Further dialysis is unnecessary (1). In 40 % glycerol, containing 6 mM $MgCl_2$, 0.12 mM $ZnCl_2$, pH ca. 7.6.

Unit definition: 1 U catalyzes the hydrolysis of 1 µmole of 4-nitrophenyl phosphate per minute at 37 °C, pH 9.8 (DEA buffer) (6).

Activity in other units: ca. 1100 U/mg at 25 °C, pH 9.6 (glycine buffer)

Substrates for Alkaline Phosphatase:
4-Nitrophenyl phosphate·Na_2-salt (cat.no. 30770)
5-Bromo-4-chloro-3-indoxyl-phosphate-p-toluidine-salt (BCIP) (cat.no. 15247)
Naphthol-AS-BI-phosphate (cat.no. 29988)
Naphthol-AS-MX-phosphate (cat.no. 30002)
1-Naphthyl phosphate·Na-salt (cat.no. 30130)

References:

1. Chaconas, G. & van de Sande, J.H. (1980) Methods Enzymol. ***65***, 75-85
2. Maxam, A.H. & Gilbert, W. (1980) Methods Enzymol. ***65***, 499-560
3. Williams, D.G. (1984) J. Immunol. Methods ***72***, 261-8
4. Harlow & Lane (1988) Antibodies, Cold Spring Harbor Laboratory Press, p. 349
5. Garen, A. & Levinthal, C. (1960) Biochim. Biophys. Acta ***38***, 470-83
6. Mössner, E. et al. (1980) Hoppe-Seyler's Z. Physiol. Chem. ***361,*** 543-9

Cat.No.	Size
32471.01	1 mg
32471.02	5 mg

Alu-Gel-S suspension research grade sterile

(Aluminum hydroxide Cγ)
HS 28183000

Ph. Eur. 1.3 % in water. Pyrogen free (as assayed in the supernatant), aged, salt-free.

Aluminum content	5.9 - 7.1 mg/ml
Iron	max. 15 ppm

Cat.No.	Size
12261.01	50 ml
12261.02	10 x 50 ml

Aluminium silicate

see 14515 Bentonite-SF, page 15

Amidosulfobetaine-14

see 20757 ASB-14, page 13

2-Amino-2-(hydroxymethyl)-1,3-propanediol

see 37180 Tris(hydroxymethyl)aminomethane, page 138

2-Amino-2-(hydroxymethyl)-1,3-propanediol

see 37181 Tris(hydroxymethyl)aminomethane, page 138

5-Amino-2,3-dihydro-1,4-phthalazinedione

see 28085 Luminol, page 65

L-2-Amino-3-(indolylepropionic acid)

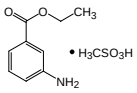
see 37422 L-Tryptophan, page 140

6-Amino-n-hexanoic acid

see 12548 ε-Aminocaproic acid, page 10

3-Aminobenzoic acid ethyl ester·methanesulfonate pure

(Tricaine; MS 222)
$C_9H_{11}NO_2 \cdot CH_4SO_3$ ♦ M_r 261.3 ♦ CAS [886-86-2]



WARNING
H315-H319-H335 ♦ EINECS 212-956-8 ♦ WGK 1 ♦ HS 29163100

For anesthetization of fish and other cold-blooded animals.

Assay (HPLC)	min. 99.0 %
MP	147 - 152 °C

References:
1. Späth, M. & Schweickert, W. (1977) Arch. Pharmacol. ***297,*** 9-16

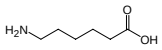
Cat.No.	Size
12396.02	5 g
12396.03	25 g

D(-)-α-aminobenzylpenicillin

see 13398 Ampicillin·Na-salt, page 11

ε-Aminocaproic acid analytical grade

(6-Amino-n-hexanoic acid)
$C_6H_{13}NO_2$ ♦ M_r 131.2 ♦ CAS [60-32-2]



EINECS 200-469-3 ♦ WGK 1 ♦ HS 29225000

Highly active inhibitor of fibrinolysin and chymotrypsin (1). Plasmin inhibitor in fibrinogen determinations (2). As well suitable as sample buffer component for Blue Native and Clear Native PAGE and component of semi-dry blotting buffer.

Assay (titr.)	min. 99.0 %

References:
1. Johnson, A.J. et al. (1969) Thromb. Diath. Haemorrh., Suppl. ***32,*** 105-11
2. Steffen, L. & Steffen, D. (1976) Clin. Chem. ***22,*** 381-3

Cat.No.	Size
12548.03	100 g

4-(2-Aminoethyl)-benzene sulfonyl fluoride hydrochloride

see 12745 AEBSF-HCl, page 5

4-(2-Aminoethyl)benzenesulfonylfluoride·HCl

see 31682 PEFABLOC® SC, page 78

Aminoglutaramic acid

see 22942 L-Glutamine, page 47

Aminoglutaramic acid

see 47204 L-Glutamine, page 47

L-2-Aminoglutaric acid

see 23000 L-Glutamic acid, page 47

6-[D-α-aminophenylacetamido]penicillanic acid

see 13398 Ampicillin·Na-salt, page 11

3-Aminophthalhydrazine

see 28085 Luminol, page 65

Ammonium acetate molecular biology grade

$C_2H_7NO_2$ ♦ M_r 77.08 ♦ CAS [631-61-8]

EINECS 211-162-9 ♦ WGK 1L ♦ HS 29152900

Ammonium acetate can be used instead of sodium acetate for precipitation of nucleic acids. In general, for precipitation of DNA a 7.5 M stock solution and for RNA a 3 M stock solution are used. DNase/RNase not detected.

Assay (titr.)	min. 97.0 %

Cat.No.	Size
39750.01	500 g

Ammonium acetate solution, 7.5 M molecular biology grade

$C_2H_7NO_2$ ♦ CAS [631-61-8]

HS 38220000

7.5 M stock solution (ammonium acetate, cat. no. 39750: 578.1 g/l) for precipitation of DNA. Short oligonucleotides and free dNTPs do not coprecipitate with DNA when precipitated with NH_4OAc. Two consecutive precipitation steps are enough to remove 99 % of free dNTPs. DNase/RNase not detected.

References:
1. Ed. Ausubel et al., (1995) Current Protocols in Molecular Biology, Wiley & Sons, Inc. (New York, NY), S. 15.3.1-4.
2. Saporito-Irwin, S.M. et al., (1997) BioTechniques, ***23*** p. 424-427

Cat.No.	Size
39751.01	250 ml
39751.02	1 L

Ammonium chloride molecular biology grade

NH_4Cl ♦ M_r 53.5 ♦ CAS [12125-02-9]

WARNING
H302-H319 ♦ EG-Index 017-014-00-8 ♦ EINECS 235-186-4 ♦ WGK 1L ♦ HS 28271000

DNase/RNase not detected.

Assay (titr.)	min. 99.5 %
Heavy metals (Pb)	max. 0.0005 %
Iron (Fe)	max. 0.0002 %
Sulfate (SO_4)	max. 0.002 %
Phosphate (PO_4)	max. 0.0002 %

Cat.No.	Size
39752.01	500 g

Ammonium formate for LC-MS

(Formic acid ammonium salt)
$HCOONH_4$ ♦ Mr 63.06 ♦ CAS [540-69-2]

WARNING
H315-H319-H335 ♦ EINECS 208-753-9 ♦ WGK 1 ♦ HS 29151200

Additive for eluent phase for LC-MS.

Assay	min. 98 %
Impurities	max. 50 ppm
pH	5.5 – 7.6
Water	max. 0.5 %
Gradient Peak	
254 nm	max. 0.001 AU
Drift at 254 nm	max. 0.005 AU
Transmittance	
260 nm	min. 97 %
Metal Compounds	
Al	max. 1 ppm
Mg	max. 1 ppm
Fe	max. 3 ppm
Ca/K/Na	max. 5 ppm

Microfiltered, 0.1 µm

Cat.No.	Size
45639.01	50 g

Ammonium persulfate analytical grade

(APS; Ammonium peroxodisulfate)
$(NH_4)_2S_2O_8$ ♦ M_r 228.2 ♦ CAS [7727-54-0]

DANGER
H272-H302-H315-H317-H319-H334-H335 ♦ EG-Index 016-060-00-6 ♦ GGVSE/ADR 5.1 III UN1444 ♦ IATA 5.1 III UN1444 ♦ EINECS 231-786-5 ♦ WGK 1L ♦ HS 28334000

For use in electrophoresis. Polymerisation catalysator. Oxidizing agent of copper, for separation of manganese und chrome.

Assay (titr.)	min. 99.0 %

Cat.No.	Size
13375.01	50 g
13375.05	250 g

Ammonium persulfate electrophoresis grade

(APS; Ammonium peroxodisulfate)
$(NH_4)_2S_2O_8$ ♦ M_r 228.2 ♦ CAS [7727-54-0]

DANGER
H272-H302-H315-H317-H319-H334-H335 ♦ EG-Index 016-060-00-6 ♦ GGVSE/ADR 5.1 III UN1444 ♦ IATA 5.1 III UN1444 ♦ EINECS 231-786-5 ♦ WGK 1L ♦ HS 28334000

Polymerisation catalyst for acrylamide/bisacrylamide polymerisation. Application proved for standard and high resolution electrophoresis techniques.

Assay (titr.) min. 99.0 %
pH 5 % in water 3.2 - 3.9

Cat.No.	Size
13376.01	50 g
13376.02	250 g

Ammonium sulfate molecular biology grade

$(NH_4)_2SO_4$ ♦ M_r 132.2 ♦ CAS [7783-20-2]

EINECS 231-984-1 ♦ WGK 1 ♦ HS 28332980

Ammonium sulfate is used for the precipitation or fractionation of proteins, for purification of antibodies and for crystallographic analysis of nucleic acids and proteins.
DNase/RNase not detected.

Assay (titr.) min. 99.0 %

Cat.No.	Size
39753.02	1 kg

Ammonium sulfate analytical grade

$(NH_4)_2SO_4$ ♦ M_r 132.2 ♦ CAS [7783-20-2]

EINECS 231-984-1 ♦ WGK 1L ♦ HS 28332980

Ammonium sulfate is used for the precipitation or fractionation of proteins, for purification of antibodies and for crystallographic analysis of nucleic acids and proteins. Suitable for enzymology.

Assay (titr.) min. 99.0 %

References:
1. Wood, W.I. (1976) Anal. Biochem. ***73,*** 250-7

Cat.No.	Size
13378.01	1 kg

AMP

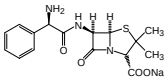
see 10883 Adenosine-5'-phosphate·Na_2-salt, page 4

Ampholytes

see 42902 SERVALYT™ 2-4, page 117

Ampicillin·Na-salt molecular biology grade, Ph. Eur.

(6-[D-α-aminophenylacetamido]penicillanic acid; D(-)-α-aminobenzylpenicillin)
$C_{16}H_{18}N_3O_4S{\cdot}Na$ ♦ M_r 371.4 ♦ CAS [69-52-3]



DANGER
H317-H334 ♦ EINECS 200-708-1 ♦ WGK 1 ♦ HS 29411000
Storage temperature +2 °C to +8 °C

Ampicillin sodium salt is a semi-synthetic derivative of penicillin used to select for ampicillin resistance in mutated and transformed cells. Ampicillin is a ß-lactam antibiotic that inhibits bacterial cell wall synthesis by inactivating transpeptidases on the inner surface of the bacterial cell membrane. The antimicrobial spectrum includes gram-positive and gram-negative bacteria. Recommended for antibacterial use in cell culture media at 100 µg/ml and in ampicillin-resistance studies at 20 - 125 µg/ml.
Solubility in water: 1 part in 2 parts H_2O. A stock solution should not be autoclaved but sterilized through filtration and stored frozen where it will be stable for months. Stability of ampicillin in solution is a function of pH, temperature and the identity of the buffer. Optimal storage conditions are 2 - 8 °C and pH 3.8 - 5 where its activity is retained at >90 % for a week.

Assay 91.0 - 102.0 %

References:
1. Davies, J. & Smith, D.J. (1978) Ann. Rev. Microbiol. ***32***, 469

Cat.No.	Size
13399.01	10 g
13399.02	25 g

Ampicillin·Na-salt research grade, Ph. Eur.

(6-[D-α-aminophenylacetamido]penicillanic acid; D(-)-α-aminobenzylpenicillin)
$C_{16}H_{18}N_3O_4S{\cdot}Na$ ♦ M_r 371.4 ♦ CAS [69-52-3]

DANGER
H317-H334 ♦ EINECS 200-708-1 ♦ WGK 1 ♦ HS 29411000
Storage temperature +2 °C to +8 °C

Ampicillin sodium salt is a semi-synthetic derivative of penicillin used to select for ampicillin resistance in mutated and transformed cells. Ampicillin is a ß-lactam antibiotic that inhibits bacterial cell wall synthesis by inactivating transpeptidases on the inner surface of the bacterial cell membrane. The antimicrobial spectrum includes gram-positive and gram-negative bacteria. Recommended for antibacterial use in cell culture media at 100 µg/ml and in ampicillin-resistance studies at 20 - 125 µg/ml.
Solubility in water: 1 part in 2 parts H_2O. A stock solution should not be autoclaved but sterilized through filtration and stored frozen where it will be stable for months. Stability of ampicillin in solution is a function of pH, temperature and the identity of the buffer. Optimal storage conditions are 2 - 8 °C and pH 3.8 - 5 where its activity is retained at >90 % for a week.

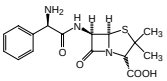
Assay 91.0 - 102.0 %

References:
1. Nguyen-Disteche, M. et al. (1974) Eur. J. Biochem. ***41***, 457-63

Cat.No.	Size
13398.01	25 g
13398.02	100 g

Ampicillin trihydrate research grade, Ph. Eur.

(6-[D(-)-α-aminophenylacetamido]penicillanic acid; D(-)-α-aminobenzylpenicillin)
$C_{16}H_{19}N_3O_4S{\cdot}3H_2O$ ♦ M_r 403.5 ♦ CAS [7177-48-2]



DANGER
H317-H334 ♦ EINECS 200-709-7 ♦ WGK 1 ♦ HS 29411000

Ampicillin is a semi-synthetic derivative of penicillin used to select for ampicillin resistance in mutated and transformed cells. ß-lactam antibiotic that inhibits bacterial cell wall synthesis by inactivating transpeptidases on the inner surface of the bacterial cell membrane. The antimicrobial spectrum includes gram-positive and gram-negative bacteria. Soluble 1 part in 150 parts H_2O as well as in diluted acids and bases. Insoluble in alcohol.

Assay (titr.) 96.0 - 100.5 %

References:
1. Nguyen-Disteche, M. et al. (1974) Eur. J. Biochem. ***41,*** 457-63

Cat.No.	Size
13397.01	10 g
13397.03	100 g

Aneurin

see 36020 Thiamine·HCl, page 135

Annexin V-APC Apoptosis Detection Kit 100 reactions

HS 38220000
Storage temperature +2 °C to +8 °C

Annexins are a family of calcium-dependent phospholipid-binding proteins, which bind to phophatidylserine (PS). Externalization of phosphatidylserine residues in the outer plasma membrane of apoptotic cells allows detection via Annexin V. Once the apoptotic cells are bound with labelled Annexin V, they can be visualized with fluorescent microscopy or cytometry.

Since loss of membrane integrity is a pathognomonic feature of necrotic cell death, necrotic cells will stain with specific membrane-impermeant nucleic acid dyes such as propidium iodide. The membrane integrity of apoptotic cells can be demonstrated by the exclusion of these dyes.

Content: 500 µl Annexin V-APC (Allophycocyanin), 50 ml 10x Binding Buffer, 1 ml propidium iodide

Cat.No.	Size
39901.01	1 kit

Annexin V-Biotin Apoptosis Detection Kit 100 reactions

HS 38220000
Storage temperature +2 °C to +8 °C

Annexins are a family of calcium-dependent phospholipid-binding proteins, which bind to phophatidylserine (PS). Externalization of phosphatidylserine residues in the outer plasma membrane of apoptotic cells allows detection via Annexin V. Once the apoptotic cells are bound with labelled Annexin V, they can be visualized with fluorescent microscopy or cytometry.

Since loss of membrane integrity is a pathognomonic feature of necrotic cell death, necrotic cells will stain with specific membrane-impermeant nucleic acid dyes such as propidium iodide. The membrane integrity of apoptotic cells can be demonstrated by the exclusion of these dyes.

Content: 500 µl Annexin V-Biotin, 50 ml 10x Binding Buffer, 1 ml propidium iodide

Cat.No.	Size
39902.01	1 kit

Annexin V-FITC Apoptosis Detection Kit 100 reactions

HS 38220000
Storage temperature +2 °C to +8 °C

Annexins are a family of calcium-dependent phospholipid-binding proteins, which bind to phophatidylserine (PS). Externalization of phosphatidylserine residues in the outer plasma membrane of apoptotic cells allows detection via Annexin V. Once the apoptotic cells are bound with labelled Annexin V, they can be visualized with fluorescent microscopy or cytometry.

Since loss of membrane integrity is a pathognomonic feature of necrotic cell death, necrotic cells will stain with specific membrane-impermeant nucleic acid dyes such as propidium iodide. The membrane integrity of apoptotic cells can be demonstrated by the exclusion of these dyes.

Content: 500 µl Annexin V-FITC, 50 ml 10x Binding Buffer, 1 ml propidium iodide

Cat.No.	Size
39900.01	1 kit

Annexin V-PE Apoptosis Detection Kit 100 reactions

HS 38220000
Storage temperature +2 °C to +8 °C

Annexins are a family of calcium-dependent phospholipid-binding proteins, which bind to phophatidylserine (PS). Externalization of phosphatidylserine residues in the outer plasma membrane of apoptotic cells allows detection via Annexin V. Once the apoptotic cells are bound with labelled Annexin V, they can be visualized with fluorescent microscopy or cytometry.

Since loss of membrane integrity is a pathognomonic feature of necrotic cell death, necrotic cells will stain with specific membrane-impermeant nucleic acid dyes such as propidium iodide. The membrane integrity of apoptotic cells can be demonstrated by the exclusion of these dyes.

Content: 500 µl Annexin V-PE (R-phycoerythrin), 50 ml 10x Binding Buffer, 1 ml propidium iodide

Cat.No.	Size
39903.01	1 kit

Anode Fluid 3 for IEF

HS 38220000
Storage temperature +2 °C to +8 °C

Contains 0.17 g L-aspartic acid and 0.18 g L-glutamic acid in 50 ml water. Recommended for general use with SERVALYT™ PRECOTES™

Cat.No.	Size
42984.03	50 ml

Anti-Corrosive Additive, 10x concentrate

WARNING
H302-H373 ♦ WGK 1 (L) ♦ HS 29053100

Added to the water circulation of the cooling unit for HPE™ BlueTower and HPE™ BlueHorizon flatbed systems to prevent corrosion.

Cat.No.	Size
43392.01	1 L

Applicator Strips 2 x 3.5

HS 39269097

19 slots, 100 mm long.
For sample application using flat bed techniques with gel layers of up to 0.5 mm thickness. Silicone rubber, length 100 x 6 x 1 mm, 19 sample slots: 2 x 3.5 mm, distance of slots: 3 mm, sample volume 5 - 10 µl.

Cat.No.	Size
42914.01	6 pieces

Applicator Strips 3.5 x 2

HS 39269097

43 slots, 240 mm long.
For sample application using flat bed techniques with gel layers of up to 0.5 mm thickness. Silicone rubber, length 240 x 6 x 1 mm, 43 sample slots: 3.5 mm x 2 mm, distance of slots: 2 mm, sample volume 5 - 10 µl.

Cat.No.	Size
42899.01	3 pieces

Applicator Strips 3.5 x 2

HS 39269097

15 slots, 100 mm long.
For sample application using flat bed techniques with gel layers of up to 0.5 mm thickness. Silicone rubber, length 100 x 6 x 1 mm, 15 sample slots: 3.5 x 2 mm, distance of slots: 3 mm, sample volume 5 - 10 µl.

Cat.No.	Size
42915.01	6 pieces

Applicator Strips 7 x 1.2

HS 39269097

24 slots, 263 mm long.
For sample application using flat bed techniques with gel layers of up to 0.5 mm thickness. Silicone rubber, length 263 x 6 x 1 mm, 24 sample slots: 7 x 1 mm, distance of slots: 3 mm, sample volume 10 - 15 µl.

Cat.No.	Size
42989.01	3 pieces

Applicator Strips Kit

HS 39269097

Contains 1 each of cat. nos. 42899, 42989, 42914, 42915

Cat.No.	Size
42937.02	1 kit

Aprotinin from bovine lung lyophil.

(Trypsin inhibitor from bovine lung; Trasylol®)
M_r ca. 6500 ♦ CAS [9087-70-1]

DANGER
H317-H334 ♦ EINECS 232-994-9 ♦ WGK 1 ♦ HS 35040090
Storage temperature +2 °C to +8 °C

Purified inhibitor of trypsin, chymotrypsin, plasmin and especially kallikrein. For *in vitro* inhibition of fibrinolytic activity in blood samples (1).

Unit definition: 1 IU (inhibitor unit) inhibits 1 U trypsin as defined by cleavage of 1 µmol BAEE (N-benzoyl-L-arginine ethyl ester) per minute (see under trypsin, cat.no. 37291).
Activity in other units: min. 3 Ph. Eur. Units (PEU)/mg, based on dried substance.
Unit definition: 1 Ph. Eur. Unit of aprotinin inhibits 50 % of the enzymatic activity of 2 microkatals trypsin, measured with BAEE as substrate at pH 8.0 and 25 °C.
Activity in other units: min. 5850 Kallikrein Inactivator Units (KIU)/mg, based on dried substance. (KIU = PEU x 60 x 32.5).

Trasylol = registered trademark of Bayer AG

References:
1. Trautschold, E. et al. (1967) Biochem. Pharmacol. ***16,*** 59-72

Cat.No.	Size
13718.01	10 mg
13718.02	25 mg
13718.03	100 mg

AquaSpark™ Alkaline Phosphatase Substrate
2 mM in DMSO

M_r 474.38

HS 38220000
Storage temperature +2 °C to +8 °C

AquaSpark™ Alkaline Phosphatase Substrate is an optimized, cost-effective chemiluminescent substrate for alkaline phosphatase detection in ELISA and Western and Southern Blots.
AquaSpark™ substrates offer unique advantages over the existing products as they can work as single agents without the need for enhancers, they have a higher efficiency and sensitivity over currently existing probes. Very high light levels are reached immediately after activation by phosphatase enzyme and a green light emission persists for 30 min or even hours.
AquaSpark™ Alkaline Phosphatase Substrate shows significantly higher signal intensities and very low background compared to other luminogenic alkaline phosphatase substrates.
100 µl will give 20 ml working solution.
Patent pending.

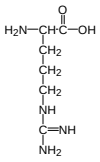
- No expensive additional enhancer necessary
- Use of significantly less substrate (1/5 or less)
- Strongest signal on the market
- Best signal-to-noise ratio – for highest sensitivity
- Long lasting signal on highest niveau

Cat.No.	Size
42593.01	100 µl

ARALDITE® Accelerator DY 964
see 36975 2,4,6-Tris(dimethylaminomethyl)phenol, page 137

ARALDITE® CY 212
see 13825 Renlam® M-1, page 96

L-Arginine base research grade, Ph. Eur., USP
(Arg; L-2-Amino-5-guanidinovaleric acid)
$C_6H_{14}N_4O_2$ ♦ M_r 174.2 ♦ CAS [74-79-3]



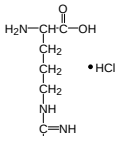
WARNING
H319 ♦ EINECS 200-811-1 ♦ WGK 1L ♦ HS 29224985

L-arginine is a component of RPMI and DMEM medium and is required for the growth of various microorganisms. It stabilizes plant protoplasts. The amino acid is as well used for pH drift correction in IEF of proteins.

Assay (titr.)	98.5 - 101.0 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
13909.02	100 g
13909.03	1 kg

L-Arginine·HCl research grade, Ph. Eur., USP
(Arg HCL; L-2-Amino-5-guanidinovaleric acid hydrochloride)
$C_6H_{14}N_4O_2$·HCl ♦ M_r 210.7 ♦ CAS [1119-34-2]



EINECS 214-275-1 ♦ WGK 1 ♦ HS 29224985

Component of cell culture media. L-arginine HCl has a higher solubility than L-arginine.

Assay (titr.)	98.5 - 101.0 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
13940.02	100 g
13940.04	1 kg

ASB-14 research grade
(Amidosulfobetaine-14; 3-[N,N-Dimethyl(3-myristoylaminopropyl)ammonio] propanesulfonate)
HS 34021900

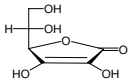
Zwitterionic detergent. Useful for solubilizing proteins for 2D analysis. ASB-14 shows better protein solubilization properties than CHAPS, by which the identification of previously undetected membrane proteins was enabled.

CMC	8 mM (20 – 25 °C)
Purity (HPLC)	min. 98.0 %

References:
1. Carroll, J., et al., J. Biol. Chem. ***277***, 50311
2. Herbert, B., (1999) Electrophoresis ***20***, 660
3. Chevallet, M., et al., (1998) Electrophoresis ***19***, 1901

Cat.No.	Size
20757.01	1 g
20757.02	5 g

L-Ascorbic acid cryst. research grade, Ph. Eur.
(Vitamin C)
$C_6H_8O_6$ ♦ M_r 176.1 ♦ CAS [50-81-7]



EINECS 200-066-2 ♦ WGK 1L ♦ HS 29362700

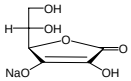
L-Ascorbic acid, as well named Vitamin C, is used in cell culture applications as an antioxidant, protecting from hydroxyl radicals, superoxide and singlet oxygen and to regenerate tocopherol. Inhibitor of β-N-acetylhexosaminidase (1).

Assay (titr.)	min. 99.0 - 100.5 %
[α] 20 °C/D (c=10 % in water)	+20.5° to + 21.5 °
Heavy metals (Pb)	max. 10 ppm

References:
1. Kanfer, J.N. & Spielvogel, C.H. (1973) Biochim. Biophys. Acta ***327***, 405-11

Cat.No.	Size
14030.02	100 g

L-Ascorbic acid·Na-salt research grade, Ph. Eur.
(Sodium-L-(+)-ascorbate)
$C_6H_7O_6$·Na ♦ M_r 198.1 ♦ CAS [134-03-2]



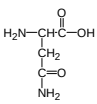
EINECS 205-126-1 ♦ WGK 1 ♦ HS 29362700

L-Ascorbic acid sodium salt is an antioxidant, which inhibits growth of cultured human neoplastic cell lines at high concentrations. Sodium-L-(+)-ascorbate is used for preparation of plant extracts and acts as reductant for the isolation of chloroplasts.

Assay (titr.)	99.0 - 101.0 %

Cat.No.	Size
14033.02	500 g

L-Asparagine·monohydrate research grade, Ph. Eur.
(Asn; L-2-Aminosuccinamic acid)
$C_4H_8N_2O_3$·H_2O ♦ M_r 150.1 ♦ CAS [5794-13-8]



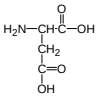
EINECS 200-735-9 ♦ WGK 1L ♦ HS 29224985

Used in cell culture media and is a component of MEM non-essential amino acids solution.

Assay (titr.)	99.0 - 101.0 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
14110.03	250 g

L-Aspartic acid research grade, Ph. Eur.
(Asp; L-Aminosuccinic acid; L-2-Aminobutanedioic acid)
$C_4H_7NO_4$ ♦ M_r 133.1 ♦ CAS [56-84-8]



EINECS 200-291-6 ♦ WGK 1L ♦ HS 29224985

L-Aspartic acid is a component of cell culture media and used in protein and polypeptide synthesis systems and procedures. The amino acid is a principal neurotransmitter for fast synaptic excitation.

Assay (titr.)	98.5 - 101.5 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
14180.02	250 g

ATP
see 10920 Adenosine-5'-triphosphate·Na_2-salt, page 5

Auxins
see 26181 Indole-3-acetic acid, page 60

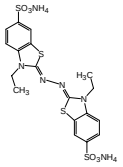
Auxins
see 26172 Indole-3-butyric acid, page 60

Avicel PH 101®
see 14204 Cellulose microcrystalline ca. 0.05 mm, page 24

Avicel PH 105®
see 14205 Cellulose microcrystalline ca. 0.02 mm, page 24

2,2'-Azinobis(3-ethylbenzthiazoline-6-sulfonic acid)·2NH_4-salt cryst. analytical grade

(ABTS)
$C_{18}H_{16}N_4O_6S_4 \cdot 2NH_4$ ♦ M_r 548.69 ♦ CAS [30931-67-0]



WARNING
H315-H319-H335 ♦ EINECS 250-396-6 ♦ WGK 1 ♦ HS 29342080

Azinobis(3-ethylbenzthiazoline-6-sulfonic acid)•2NH_4-salt, abbreviated ABTS, is a chromogen for peroxidase in enzyme-linked immunoassay (ELISA) (1). ABTS is a substrate and for laccase and angiotensin I-converting enzyme assay (2). A peroxidase reaction of ABTS in the presence of hydrogen peroxide produces a green soluble end product which can be read spectrophotometrically at 405 nm. The reaction may be stopped with 1 % sodium dodecyl sulfate (SDS).

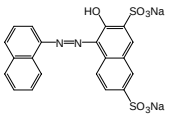
TLC: one spot

References:
1. Groome, N.P. (1980) J. Clin. Chem. Clin. Biochem. ***18,*** 345-9
2. Shin, T. et al. (1987) Anal. Biochem. ***166,*** 380-8

Cat.No.	Size
14364.01	1 g

Azorubin pure

(Acid Red 14; Chromotrope FB)
C.I.14720 ♦ $C_{20}H_{12}N_2O_7S_2 \cdot Na_2$ ♦ M_r 502.4 ♦ CAS [3567-69-9]



EINECS 222-657-4 ♦ WGK 2L ♦ HS 29270000

Azorubin, also named Chromotrope FB or Acid Red 14, is used In microscopy for cytoplasmic and and nuclear staining in haematological and histological applications. The stain is a sulfated naphtyl diazo dye.

λ max. (0.001 % in water) 514 - 522
A 1 cm/λ max. (0.001 % in water) min. 0.4

Cat.No.	Size
14410.01	25 g

Bacitracin research grade, USP

(Bacidrin, Ginebatine)
M_r ca. 1422 ♦ CAS [1405-87-4]

WARNING
H315–H317–H319–H335 ♦ EINECS 215-786-2 ♦ WGK 2 ♦ HS 29419000

Storage temperature +2 °C to +8 °C

Min. 60 000 IU/g. Main component Bacitracin A. Bactericidal activity requires divalent cations like Zn^{++} (1); peptide antibiotic; inhibitor of peptidoglycan synthesis.

References:
Scogin, D. et al. (1980) Biochemistry 19, 3348-52

Cat.No.	Size
14419.02	25 g

Basic Blue 17
see 36693 Toluidine Blue O salt, page 136

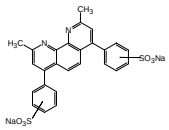
Basic Blue 9
see 29198 Methylene Blue, page 70

Basic Red 5
see 30305 Neutral Red, page 74

Basic Violet 3
see 27335 Crystal Violet, page 30

Bathocuproine disulfonic acid·Na_2-salt analytical grade

(2,9-Dimethyl-4,7-diphenyl-1,10-phenanthroline disulfonate)
$C_{26}H_{18}N_2O_6S_2 \cdot Na_2$ ♦ M_r 564.6 ♦ CAS [52698-84-7]



EINECS 258-111-7 ♦ WGK 1 ♦ HS 29339980

Strong chelator used for the spectrophotometric determination of copper and iron in biological samples and copper detection in polyacrylamide gels.

Assay (titr.) min. 98.0 %

References:
1. Bruynincky, W.J. et al. (1978) Anal. Biochem. ***89,*** 174-7

Cat.No.	Size
14470.02	1 g
14470.03	5 g

Bayol F research grade

(Paraffin oil, low viscosity; Bayol 35)
HS 27101985

Suitable as cooling fluid for use in horizontal electrophoresis.

Cat.No.	Size
14500.01	100 ml
14500.02	1 L

BCA Protein Assay Macro Kit

DANGER
H334 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

The assay bases on the bichinchoninic acid method (1). Proteins reduce alkaline Cu(II) to Cu(I). Bichinchoninic acid forms a purple complex with Cu(I) with an absorbance maximum at 562 nm. The absorbance is directly proportional to protein concentration.

- Fast and sensitive assay: linear detection range from 25 – 1000 µg protein/ml
- Easy to use: contains ready-to-use reagents and protein standard
- Compatible with many detergents
- Less binding variation between different proteins than Bradford assay

References:
1. Smith, P.K., et al. (1985) Anal. Biochem. ***150***, 76 - 85

Cat.No.	Size
39228.01	250 tests
39228.02	500 tests

BCA Protein Assay Micro Kit

DANGER
H334 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

The assay bases on the bichinchoninic acid method (1). Proteins reduce alkaline Cu(II) to Cu(I). Bichinchoninic acid forms a purple complex with Cu(I) with an absorbance maximum at 562 nm. The absorbance is directly proportional to protein concentration.

- Fast and sensitive assay: linear detection range from 0.5 – 20 µg protein/ml
- Easy to use: contains ready-to-use reagents and protein standard
- Compatible with many detergents
- Less binding variation between different proteins than Bradford assay

References:
1. Smith, P.K., et al. (1985) Anal. Biochem. ***150***, 76 - 85

Cat.No.	Size
39229.01	480 tests

BCIP
see 15247 5-Bromo-4-chloro-3-indolyl-phosphate·p-toluidine-salt, page 21

BCIP/NBT Ready-To-Use Substrate

for immunohistochemistry and blotting

HS 38220000
Storage temperature +2 °C to +8 °C

Single component substrate solution for detection of alkaline phosphatase in immunohistochemical, *in situ* hybridization and blotting procedures. A very fine blue-purple precipitate will be localized at sites of AP activity on tissue sections. Purple bands or dots will be visible at the sites of AP activity on membranes.
Contains a proprietary enhancer and a non-toxic stabilizer, which guarantee a highly sensitive and consistent performance of the substrate.

Cat.No.	Size
15246.01	100 ml

BDMA

see 14835 Benzyl dimethylamine, page 15

BEEM capsules 5.2 mm for EM-Embedding

HS 39239000

Polyethylene with pyramidal tip and polyethylene cover.

Cat.No.	Size
43510.01	100 pieces

Bentonite-SF research grade, NF

(Aluminium silicate; Montmorillonite)
CAS [1302-78-9]

EINECS 215-108-5 ♦ HS 25081000

Emulsifier and adsorbent for proteins and viruses. Conforms to NF in its gel-forming capacity. For detoxification use a 2 % aqueous suspension. Suitable for the removal of cyanate in urea solutions.

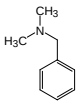
Water content	5.0 - 8.0 %
Swelling 2 % in water	min. 24 ml
pH 2 % in water	9.5 - 10.5

References:
1. Wystrup, G. et al. (1979) Eur. J. Biochem. ***100,*** 101- 13

Cat.No.	Size
14515.02	2,5 kg

Benzyl dimethylamine research grade

(BDMA; N, N-Dimethylbenzylamine)
$C_9H_{13}N$ ♦ M_r 135.2 ♦ CAS [103-83-3]



DANGER
H226-H302-H312-H314-H332-H412
♦ EG-Index 612-074-00-7 ♦ GGVSE/
ADR 8 II UN2619 ♦ IATA 8 II UN2619 ♦ EINECS 203-149-1 ♦ WGK 2L ♦ HS 29214900

Catalyst of very low viscosity for epoxy-polyester embedding in electron microscopy.

References:
1. Freeman, J.A. & Spurlock, B.O. (1962) J. Cell Biol. ***13,*** 137-43

Cat.No.	Size
14835.01	10 ml

Benzylpenicillin potassium

see 31749 Penicillin G·K-salt, page 78

Benzylsulfonyl fluorid

see 32395 Phenylmethylsulfonyl fluoride, page 80

Bind-Silane

see 28739 3-Methacryloxypropyltrimethoxysilane (Bind-Silane), page 69

BIO-5000 Plus VIS Gel Scanner

HS 90278017

The BIO-5000 Plus VIS Gel Scanner is a dual platform scanner specially designed for scanning of electrophoresis gels and blots by visual detection. It is equipped with energy-saving LEDs and an optical CCD whose resolution is up to 4,800 dpi. The range of the optical density is between 0.05 and 3.77 OD providing a smarter way to capture differences among each layer of scanned electrophoresis gels.
With a built-in auto-focus function, BIO-5000 Plus is capable of shifting the focal length to the best position automatically for images of top quality. By the design of the Emulsion Direct Image Technology (E.D.I.T.) and holders for electrophoresis gels, it is convenient to put your BIO-5000 Plus in operation and lowers the risk of mutual infection in experiments. Therefore, BIO-5000 Plus is the best choice of scanning electrophoresis gels.

- Leak-free holder for scanning wet electrophoresis gels in transmission mode
- Scanning of stained blot membranes in reflection mode
- Energy-saving LEDs as light source
- Short warm-up times
- CCD image sensor
- Resolution up to 4,800 dpi
- Dynamic range over approx. 3.7 O.D. units
- Auto-focus for highest image quality
- Easy-to-use scanning software
- Scanning area up to 216 mm x 254 mm
- IQ/OQ/PQ and FDA CFR Part 11 ready with LabImage Software

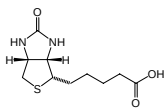
Specifications:

Scanning Modes	Color and grayscale, single scanning pass True 48-bit color 16-bit grayscale (65,536 shades of gray)
Scanning Area	Reflective: max. 216 x 356 mm Transmission: max. 216 x 254 mm
Linearity	3.7 O.D.
Resolution	4,800 dpi x 9,600 dpi
Interface	Hi-Speed USB 2.0
Dimension	385 x 158 x 567 mm
Weight	12 kg

Cat.No.	Size
BIO-5000P	1 piece

(+)-Biotin cryst. research grade, Ph. Eur., USP

(d-Biotin; Vitamin H)
$C_{10}H_{16}N_2O_3S$ ♦ M_r 244.3 ♦ CAS [58-85-5]



EINECS 200-399-3 ♦ WGK 1L ♦ HS 29362900

Biotin serves as an important cofactor for mammalian carboxylases. Supplement for cell culture media, e.g. M199 medium or SATO serum free medium.
Tested for use in tissue culture.

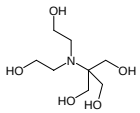
Assay (titr.)	98.5 - 100.5 %
Heavy metals	max. 10 ppm

References:
1. Bayer, E. & Wilchek, M. (1974) Methods Enzymol. ***34,*** 265-7
2. Knappe, J. (1970) Annu. Rev. Biochem. ***39,*** 757-76

Cat.No.	Size
15060.03	2,5 g

2-[Bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)-1,3-propanediol analytical grade

(Bis(2-hydroxyethyl)imino-tris(hydroxy methyl) methane; BISTRIS)
$C_8H_{19}NO_5$ ♦ M_r 209.24 ♦ CAS [6976-37-0]



EINECS 230-237-7 ♦ WGK 1 ♦ HS 29221985

Zwitterionic buffering substance for a pH range of 5.8 – 7.2 (1). Bis-Tris is used in biochemistry and molecular biology and is a common component of many buffer systems for electrophoresis. Since it may form a complex with some common metals, such as Cu(II) and Pb(II), formation constants should be taken into account when using this buffer in a solution containing metal ions. Bis-Tris is a substitute for the highly toxic buffer cacodylate.

Assay (titr.)	min. 99.0 %
A 1 cm/10 % in water	
280 nm	max. 0.1
Iron (Fe)	max. 5 ppm
Lead (Pb)	max. 3 ppm
pH 10 % in water	9.4 - 10.4
pKa 20	6.46

References:

1. Daabo, M. & Bates, R. (1970) J. Phys. Chem. ***74,*** 702-5

Cat.No.	Size
15107.04	250 g

Bis(acrylamido)methane

see 29195 N,N'-Methylene bisacrylamide 2X, page 70

BISTRIS

see 15107 2-[Bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)-1,3-propanediol, page 16

Blank FocusGel 24S Size: 250 x 115 x 0.65 mm

HS 38220000
Storage temperature +2 °C to +8 °C

24 slots for 25 µl. To perform IEF, Blank FocusGels are equilibrated in the ampholyte mixture of choice with or without urea prior to electrophoresis.

Cat.No.	Size
43413.01	4 gels

Blank PRECOTES™ PAG layer 300 µm, Size 125 x 125 mm

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Blank PRECOTES™ were developed by SERVA to provide a versatile solution to perform isoelectric focusing (IEF) of any pH range. Blank PRECOTES™ are thin (0.3 mm) polyacrylamide gels cast onto GEL-FIX™ support film that contain only BisTris buffer pH 6.5. They are given the prefix »blank« to indicate that they are (almost) »empty« gels with a matrix that can be adapted to anything the user wants it to be.
Blank PRECOTES™ are equilibrated in the ampholyte mixture of choice prior to electrophoresis. Shelf-life of Blank PRECOTES™ is at least 12 months, either as blank gels (without ampholyte) or in the equilibrated form (with ampholyte, without urea).

PRECOTES is a registered trademark of SERVA.

Cat.No.	Size
42759.01	5 gels

BlueBlock PF (10x) for Blotting and ELISA

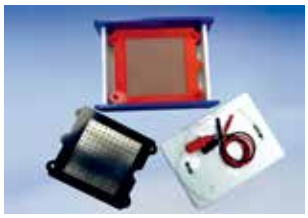
HS 38220000

Protein-free, polymer-based blocking reagent, delivered as a 10x concentrate. To achieve a good signal-to-noise ratio in blotting, ELISA or other immuno assays, it is important to block nonspecific antibody binding sites on the transfer membrane. Protein based blocking solutions like skim milk or BSA solutions may not only block unspecific binding sites, but mask as well specific binding sites. With BlueBlock, the specific binding sites remain accessible while nonspecific reactions are suppressed, thus leading to an increase in signal intensity. It is suitable for colorimetric and chemiluminescence detection systems.

Cat.No.	Size
42591.01	250 ml
42591.02	1 L

BlueBlot Semi-Dry Blotter SD11

HS 90272000



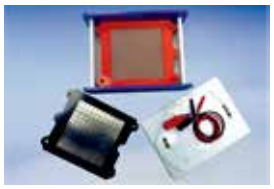
For fast and gentle electrotransfer of proteins in Western Blots.
The BlueBlot semi-dry blotter forms a homogeneous electrical field that guarantees fast and efficient transfer of proteins from gel to membrane.
As associated with semi-dry blotting compared to tank blotting less heat is generated for gentle protein transfer.
It is fast and requires less buffer.
By applying the Xpress Blotting Buffer (cat. no. 42661) semi-dry transfer of high and low molecular weight proteins is done fast and efficient within 15 minutes. Moreover, all common continuous and discontinuous buffer systems can be applied without any limitation.
Anode is made from platinum-covered steel net, cathode is made from a stainless steel plate. The spring-mounted anode allows blotting of thicker gels and gel stacks. To avoid air bubbles within the blotting system the cathode carries drill holes to transport gas generated by the electro-chemically blotting process from inside to outside. The electrodes are built into a stable acrylic housing that is resistant to 10 % ethanol and easy to clean. The long-lasting electrodes can be dismounted and cleaned separately.
The BlueBlot semi-dry blotter has a blotting area of 11 cm x 11 cm. The electrode sets BB-E11 (11 cm x 11 cm) and BB-E17 (17 cm x 17 cm) are obtainable separately and fit into the same base unit. With the 17 cm x 17 cm electrode set up to 8 mini gels can be blotted simultaneously.

- Platinum-covered steel net as anode
- Spring-mounted anode for blotting stacks
- Stainless steel plate as cathode
- Blotting area: 11 cm x 11 cm
- Deployable for thicker gels and blotting stacks
- Dimensions: 31 cm x 23 cm x 11 cm
- Weight: 3 kg

Cat.No.	Size
BB-SD11	1 piece

BlueBlot Semi-Dry Blotter SD17

HS 90272000



For fast and gentle electrotransfer of proteins in Western Blots. For more information please refer to BlueBlot Semi-Dry Blotter SD11. The electrode sets BB-E11 (11 cm x 11 cm) and BB-E17 (17 cm x 17 cm) are obtainable separately and fit into the same base unit.

- Platinum-covered steel net as anode
- Spring-mounted anode for blotting stacks
- Stainless steel plate as cathode
- Blotting area: 17 cm x 17 cm
- Deployable for thicker gels and blotting stacks
- Dimensions: 31 cm x 23 cm x 11 cm
- Weight: 3 kg

Cat.No.	Size
BB-SD17	1 piece

BlueBlot Semi-Dry Blotter SD26

HS 90272000

For fast and gentle electrotransfer of proteins in Western Blots. For more information please refer to BlueBlot Semi-Dry Blotter SD11. The BlueBlot semi-dry blotter has a blotting area of 24 cm x 26 cm.

- Platinum-covered steel net as anode
- Spring-mounted anode for blotting stacks
- Stainless steel plate as cathode
- Blotting area: 24 cm x 26 cm
- Deployable for thicker gels and blotting stacks

Cat.No.	Size
BB-SD26	1 piece

BlueClear SB for antibody stripping

HS 38220000
Storage temperature +15 °C to +30 °C

Ready-to-use buffer for efficient stripping of high-affintiy antibodies from Western blot membranes after chemiluminescence detection.
Easy-to-use - Just incubate the membrane in the stripping buffer for 30-60 mins at room temperature. Hard-to-remove antibodies are efficiently stripped by incubation in heated buffer. After washing in PBST or TBST, the membrane may be blocked and probed again..

- Fast, simple and highly effcient
- Gentle
- Without ß-mercaptoethanol or DTT
- Suitable for nitrocellulose and PVDF membranes

Cat.No.	Size
42599.01	250 ml
42599.02	1 L

BlueMarine™ 100

HS 90272000

Gel format 7 x 10 cm for quick analysis of up to 28 samples. Contains main unit, 1 removable UV transparent gel tray (7 x 10 cm), 2 gel casting gates, 1 comb (1.0 mm, 8 samples).

Operational Data

Maximum operating voltage:	300 V
Maximum operating current:	200 mA
Approx. gel volume (5 mm gel):	35 ml
Possible comb positions:	2
Maximum of loadable samples:	28
Electrode separation:	18 cm
Recommended volts per cm:	14 - 140

BlueMarine™ is a trademark of SERVA.

Cat.No.	Size
BM-100	1 piece

BlueMarine™ 200

HS 90272000

Gel formats 15 x 15 cm or 15 x 20 cm for best resolution or high throughput analysis. Contains main unit, 1 removable UV transparent gel tray (15 x 20 cm), 1 removable UV transparent gel tray (15 x 15 cm), 2 gel casting gates, 2 combs (1.0 mm, 16 samples).

Operational Data (Tray: 15 x 15 cm / 15 x 20 cm):

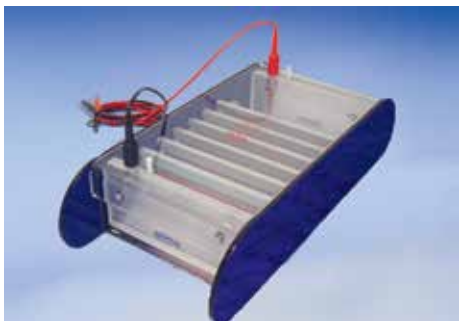
Maximum operating voltage:	500 V / 500 V
Maximum operating current:	300 mA / 300 mA
Approx. gel volume (5 mm gel):	115 ml / 150 ml
Possible comb positions:	2 / 4
Maximum of loadable samples:	62 / 124
Electrode separation:	28.5 cm / 28.5 cm
Recommended volts per cm:	20 - 200 / 20 - 200

Cat.No.	Size
BM-200	1 piece

BlueMarine™ HTS

HS 90272000

Gel format 17.5 cm x 19.2 cm for high resolution long runs of single samples or analysis of complete 96-well microtiter plates. By changing the left/right orientation of the comb you can position the sample wells one upon the other or shifted to each other.
Contains main unit, 1 removable UV transparent gel tray, 6 aluminum combs with 17 sample wells.



Operational Data:

Maximum operating voltage:	500 V
Maximum operating current:	300 mA
Approx. gel volume (5 mm gel):	160 ml
Possible comb positions:	6
Maximum of loadable samples:	102
Electrode separation:	28.5 cm
Recommended volts per cm:	20 - 200 V
Dimensions (W x L x H):	19.5 x 38 x 80 cm

Cat.No.	Size
BM-HTS	1 piece

BlueMarine™ HTS Casting Adaptor

HS 90272000

Casting stand to hand cast agarose gels for BlueMarine™ HTS electrophoresis chamber (cat. no. BM-HTS).

Cat.No.	Size
BM-HTS-CA	1 piece

BlueMarine™ HTS Replacement Tray

HS 90272000

Replacement tray for BlueMarine™ HTS .

Cat.No.	Size
BM-HTS-RT	1 piece

BluePower™ 300 BLOT Power Supply

HS 90272000

The BluePower™ 300 BLOT Power Supply (300 V, 2 A, 300 W) is suited for applications requiring high current like tank blotting or semi-dry blotting of larger protein gels. It is also compatible with separation of nucleic acids. 4 x 2 outlets, programmable.
All SERVA BluePower™ power supplies are easy-to-use, safe and reliable. They are fully overload-protected including short-circuit of outputs: an automatic power-off function stops the voltage when ground leakage is detected.

- Automatic cross-over function with constant voltage, current and power
- Programmable power supplies (9 x 9 steps)
- Free data logging, transfer and remote control via USB
- Timer function (h/Vh)
- Voltage ramp mode

Cat.No.	Size
BP-300-BLO	1 piece

BluePower™ 3000 HPE™ Power Supply

HS 90272000

The BluePower™ 3000 HPE™ Power Supply (3000 V, 200 mA, 300 W) is designed for high voltage applications like isoelectric focusing, horizontal 2D electrophoresis. It comes with a special mode for low current applications such as IEF: the power supply can measure currents as low as 10 microAmps and keep its voltage constant at even 0 current. Other applications like SDS PAGE and submarine electrophoresis can be performed as well. 4 x 2 outlets, programmable.
All SERVA BluePower™ power supplies are easy-to-use, safe and reliable. They are fully overload-protected including short-circuit of outputs: an automatic power-off function stops the voltage when ground leakage is detected.

- Automatic cross-over function with constant voltage, current and power
- Programmable power supplies (9 x 9 steps)
- Free data logging, transfer and remote control via USB
- Timer function (h/Vh)
- Voltage ramp mode.

Cat.No.	Size
BP-3000-HPE	1 piece

BluePower™ 600 PRiME™ Power Supply

HS 90272000

The BluePower™ 600 PRiME™ Power Supply (600 V, 1000 mA, 300 W) is an allround instrument serving many applications, e.g. SDS PAGE, blotting and submarine electrophoresis. It is particularly advised for operation of up to four vertical slab gel units run at high voltage, also resulting in shorter running times and for blotting applications (tank blot, semi-dry blot). 4 x 2 outlets, programmable.

All SERVA BluePower™ power supplies are easy-to-use, safe and reliable. They are fully overload-protected including short-circuit of outputs: an automatic power-off function stops the voltage when ground leakage is detected.

- Automatic cross-over function with constant voltage, current and power
- Programmable power supplies (9 x 9 steps)
- Free data logging, transfer and remote control via USB
- Timer function (h/Vh)
- Voltage ramp mode.

Cat.No.	Size
BP-600-PRI	1 piece

BluePower™ 6000 IPG Power Supply

HS 90272000

The BluePower™ 6000 IPG Power Supply (6000 V, 150 mA, 300 W) is designed for high voltage applications like isoelectric focusing in IPG strips. It comes with a special mode for low current applications such as IEF: the power supply can measure currents as low as 10 microAmps and keep its voltage constant at even 0 current. Other applications like SDS PAGE and submarine electrophoresis can be performed as well. 4 x 2 outlets, programmable.
All SERVA BluePower™ power supplies are easy-to-use, safe and reliable. They are fully overload-protected including short-circuit of outputs: an automatic power-off function stops the voltage when ground leakage is detected.

- Automatic cross-over function with constant voltage, current and power
- Programmable power supplies (9 x 9 steps)
- Free data logging, transfer and remote control via USB
- Timer function (h/Vh)
- Voltage ramp mode.

Cat.No.	Size
BP-6000-IPG	1 piece

BlueSlick™

DANGER
H225-H319-H336 ♦ MAK/TRK 500 mg/m³; 200 ml/m³ for isopropanol ♦ GGVSE/ADR 3 II UN1993 ♦ IATA 3 II UN1993 ♦ WGK 1 ♦ HS 38220000

Non-toxic BlueSlick™ is the alternative to silane-containing products and is non-irritant to eyes. It can be handled outside of a fume-hood. Suitable to all applications in electrophoresis (DNA sequencing, SDS PAGE, IEF PAGE). It does not affect the separation.
Supplied in a safety spray bottle made from PE, free of propellant (CFC). One spray dose dispenses a quantity of 0.7 ml BlueSlick™ reagent. BlueSlick™ coating will last for 3 to 4 electrophoresis applications.
Ready-to-use reagent for treatment of glass plates; non-toxic, prevents adhesion of gels to glass.

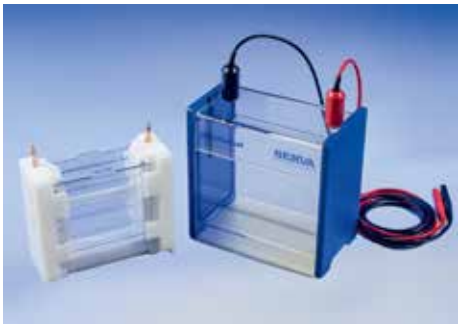
BlueSlick is a trademark of SERVA.

Cat.No.	Size
42500.01	250 ml

BlueVertical™ PRiME™ Mini Slab Gel Unit

HS 90272000

The BlueVertical™ PRiME™ is a dual mini tank system to operate one or two precast gels. It accomodates SERVA*Gel*™ TG PRiME™, all other types of SERVA*Gel*™ and all other commercially available precast gels with an outer cassette dimension of 10 x 10 x 0.7 cm. The fixture of the inner core unit has been re-engineered to provide four robust clamps (two on both sides) that fix two precast gel cassettes properly and tightly in their correct position. This ensures that the inner buffer chamber is leak-free separated from the outer buffer compartment.
Separation of proteins by SDS PAGE, native PAGE and IEF can be carried out as well as separation of nucleic acids. The outer buffer tank works as heat sink (passive cooling by buffer), sufficient for most applications mentioned above. You may run two SERVA*Gel*™ TG PRiME™ simultaneously at 300 Volt. The run will be completed in about 35 minutes without warming up the buffer significantly. If additional cooling is required (e. g. for IEF applications), a magnetic stirrer can be applied to help circulation of buffer fluid.
The unit consists of an outer buffer tank and the inner core running unit. Mounting of precast gels does not require any tedious clamping but is a matter of seconds. The outer buffer tank is made from rugged transparent acrylic – watch your gel while running! A safety lid closes the top, giving the unit a very compact and robust design. Little bench space is required. The unit is, of course, in accordance with the European safety guidelines (CE mark). When quality becomes an issue – choose BlueVertical™ PRiME™.



Specifications:

Inner buffer volume	200 ml
Outer buffer volume	450 ml
Voltage (max)	500 Volt
Current (max)	250 mA
Operating temperature	4 °C - 65 °C
Electrodes	Rod electrode, platinum-coated
Dimensions	16 x 15.6 x 9.5 cm (WxHxD)
Weight	1.2 kg

Cat.No.	Size
BV-104	1 piece

BlueVertical PRiME™ Blot Module

HS 90272000

Tank blotting module to blot two gels directly in your BlueVertical™ PRiME™ chamber (BV104). Easy handling without clamps. No frail hinges.

Cat.No.	Size
BV-104-B.01	1 piece

BlueVertical PRiME™ Casting Stand

HS 90272000

The BlueVertical PRiME™ Casting Stand is a casting system to cast one or two vertical mini gels to be operated with the BlueVertical PRiME™ electrophoresis chamber (BV-104). It consists of a casting base with a rubber seal and a core unit to hold the glass plate sandwich in position. 1.0 mm spacers, combs and glass plates (plain, notched) have to be ordered separately.

Ordering information for casting accessories:
BV-10-1.0: Comb, 1.0 mm, 10 wells
BV-12-1.0: Comb, 1.0 mm, 12 wells
BV-15-1.0; Comb, 1.0 mm, 15 wells
BV-10-1.5: Comb, 1.5 mm, 10 wells
BV-12-1.5: Comb, 1.5 mm, 12 wells
BV-15-1.5; Comb, 1.5 mm, 15 wells
BV-GP-P1.0: Glass plates with spacers (1.0 mm), plain (4), 3.0 mm glass
BV-GP-P1.5: Glass plates with spacers (1.5 mm), plain (4), 3.0 mm glass
BV-GP-N: Glass plates notched (4), 3.0 mm glass

Cat.No.	Size
BV-104-CS	1 piece

BlueVertical™ PRiME™ Outer Buffer Tank

HS 90272000

Replacement tank for BlueVertical™ PRiME™

Cat.No.	Size
BV-104-BT	1 piece

Replacement safety lid for BlueVertical™ PRiME™

HS 90272000

Replacement safety lid for BlueVertical™ PRiME™

Cat.No.	Size
BV-104-RL	1 piece

BlueVertikal™ PRIME™ Tank Blotter

HS 90272000

The BlueVertical™ PRiME™ tank blotter for vertical minigel blots combines highest quality, durability and ease of use. You can use it to blot up to two self-casted gels, SERVA*Gel*™ pre-cast gels and commercially available ready-to-use gels.

The BlueVertical™ PRiME™ Tank Blotter is made of durable acrylic and the electrode material is tear resistant. The innovative and unique insert cassettes do not require screws or clamps. Between their base and lid, you assemble your blot and simply slide the cassettes into the inner blot unit. The device is compliant with European safety regulations (CE mark).

Cat.No.	Size
BV-104-TB	1 piece

BlueZol Lysis reagent for cells and tissues

DANGER
H300-H311-H314-H317
Muta.2 ♦ GGVSE/ADR: 6.1 III UN2821 ♦ IATA: 6.1 III UN2821 ♦ WGK: 2

HS 38220000
Storage temperature +2 °C to +8 °C

BlueZol is a ready-to-use reagent for the isolation of total RNA from various biological materials such as animal and plant tissues, cell culture and bacterial cells.
Homogenisation or lysis of a biological sample in BlueZol leads to a separation into three phases: an aqueous upper phase, an organic lower phase and an interphase. The RNA remains in the aqueous phase and its purification is followed by precipitation in isopropyl alcohol. The highly effective RNase inhibitory property of BlueZol protects the integrity of the RNA during lysis and results in the isolation of high-quality RNA. The purified RNA is ideal for any downstream applications such as RT-PCR, *in vitro* translation, Northern Blotting, RNase protection assays or dot blot hybridization.
BlueZol can be used for the simultaneous isolation of RNA, DNA and protein from one sample. The DNA remains in the interphase and the proteins in the organic phase. After purification DNA can be used for PCR and Southern Blotting and the proteins for Western Blotting.

Cat.No.	Size
39808.01	100 ml

Blue LED Table

HS 90275000

Bluelight table for DIAS-III

Cat.No.	Size
BLED-T	1 piece

Boric acid analytical grade

H_3BO_3 ♦ M_r 61.83 ♦ CAS [10043-35-3]

DANGER
H360Fd ♦ Repr. 1B ♦ MAK/TRK 0.5 mg/m³ ♦ EG-Index 005-007-00-2 ♦ EINECS 233-139-2 ♦ WGK 1L ♦ HS 28100090

Boric acid can be used for molecular biology studies, DNA and RNA purification, biological buffers and molecular biology reagents..

Assay (titr.)	99.0 - 100.5 %
Heavy metals (Pb)	max. 15 ppm

Cat.No.	Size
15165.02	250 g
15165.01	1 kg

Boric acid electrophoresis grade

H_3BO_3 ♦ M_r 61.83 ♦ CAS [10043-35-3]

DANGER
H360Df ♦ Repr. 1B ♦ MAK/TRK 0.5 mg/m³ ♦ EG-Index 005-007-00-2 ♦ EINECS 233-139-2 ♦ WGK 1L ♦ HS 28100090

Boric acid is used to prepare TBE buffer, the most frequently used buffer for DNA/RNA electrophoresis (1). Application tested quality for electrophoresis.

Assay (titr.)	99.0 - 100.5 %

References:
1. Ogden, R. C. & Adams, D. A. (1987) Methods Enzymol. ***152,*** 61 - 87

Cat.No.	Size
15166.02	1 kg

Bradford Reagent, 5x concentrate

DANGER
H314 ♦ GGVSE/ADR 3 II UN2924 ♦ IATA 3 II UN2924 ♦ WGK 1 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Protein dye reagent for protein quantification after Bradford (1).

- Precise, reproducible and inexpensive
- Fast, only five minutes incubation before reading the sample at 595 nm
- Suitable for micro (1 - 25 µg protein/ml) and standard (100 – 1000 µg protein/ml) assays

50 ml Bradford reagent are sufficient for more than 200 micro assays (1-ml cuvette) or for more than 900 assays in micro titer plates.

References:
1. Bradford, M. M. (1976) Anal. Biochem., ***72***, 248 – 254

Cat.No.	Size
39222.01	50 ml
39222.02	200 ml
39222.03	500 ml

Brij 35™ pract.

(Polyoxyethylene monolauryl ether)
M_r ca. 1200 ♦ CAS [9002-92-0]

EINECS 500-002-6 ♦ WGK 2L ♦ HS 34021300

Brij® 35 is a copolymer and non-ionic detergent with polyoxyethylen group. It is used for the isolation of functional membrane complexes, since Brij® 35 does neither denature nor dissociate proteins (1). Also applied in chemiluminescence analysis (2, 3).
n ca. 23, CMC (25 °C) 0.09 mM, Na (25 °C) 40, HLB 16.9.

Brij = registered trademark of the CRODA International Plc.

References:
1. Yoshikawa, S. et al. (1988) Proc. Natl. Acad. Sci. USA ***85,*** 1354-8
2. Javier, B.F. et al. (1988) J. Biolumin. Chemilumin. ***2,*** 121-8
3. Aiken, J.H. & Huie, C.W. (1991) Anal. Lett. ***24,*** 167-80

Cat.No.	Size
15230.01	100 g

Bromelain from pineapple stem min. 0.2 DMC-U/mg powder

(Stem bromelain)
EC 3.4.22.32 ♦ M_r ca. 33 000 ♦ CAS [37189-34-7]

DANGER
H315-H319-H334-H335 ♦ EG-Index 647-005-00-X ♦ EINECS 253-387-5 ♦ WGK 3L ♦ HS 35079090
Storage temperature +2 °C to +8 °C

Suitable for blood group serology (1) and degradation of proteins.

Unit definition: 1 DMC-U catalyzes the cleavage of 1 µmole peptide bond from dimethyl casein per minute at 25 °C, pH 7.0 expressed in terms of newly formed terminal amino groups (determined with TNBS) (2).

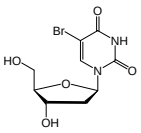
Activity in other units: 1200 GDU units/g (1 GDU unit yields the equivalent of 1 mg amino nitrogen from gelatin in 20 min at 45 °C, pH 4.5).
2400 FIP units/g (4).

References:
1. Gray, M.P. (1959) J. Lab. Clin. Med. ***54,*** 155-7
2. Lin, Y. et al. (1969) J. Biol. Chem. ***244,*** 789-93
3. Murach, T. (1976) Methods Enzymol. Vol. ***45,*** Acad. Press, New York, p. 475-85
4. Monod, J. (1966) Pharm. ***4***, 343 (FIP-Method)

Cat.No.	Size
15250.01	25 g
15250.02	100 g
15250.03	500 g

5-Bromo-2'-deoxyuridine research grade

$C_9H_{11}BrN_2O_5$ ♦ M_r 307.1 ♦ CAS [59-14-3]



WARNING
H351 ♦ EINECS 200-415-9 ♦ WGK 2 ♦
HS 29349990
Storage temperature +2 °C to +8 °C

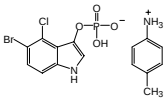
5-Bromo-2'-deoxyuridine (BrdU) is a thymidine analog used as a mutagen in genetic research. BrdU is selectively incorporated into cellular DNA during S-phase. 5-Bromo-2'-deoxyuridine is used to measure DNA synthesis and to label dividing cells for the study of cell signaling and other processes that induce cell proliferation.

Purity (HPLC) min. 99.0 %

Cat.No.	Size
15240.02	1 g

5-Bromo-4-chloro-3-indolyl-phosphate·p-toluidine-salt research grade

(BCIPT)
$C_8H_6NO_4BrClP \cdot C_7H_9N$ or $C_{15}H_{15}BrClN_2O_4P$ ♦ M_r 433.6 ♦ CAS [6578-06-9]



EINECS 229-506-1 ♦ HS 29339980
Storage temperature -15 °C to -25 °C

5-bromo-4-chloro-3-indolyl phosphate (BCIP) is a histochemical substrate for phosphatase. BCIP is used in conjunction with Nitro Blue Tetrazolium (NBT, cat. no. 30550) for the colorimetric detection of alkaline phosphatase-labelled molecules in Northern, Southern, and Western blotting, in situ hybridization, and immunohistochemistry. When incubated with alkaline phosphatase the BCIP/NBT substrate produces an insoluble, purple coloured NBT diformazan precipitate that is easily detected on membranes or tissue sections.
BCIP p-toluidine salt and NBT should be solved in dimethylformamide for preparation of a stock solution.

Stock solution: 50 mg/ml in 100 % DMF. Store at 4 °C or -20 °C.
Staining solution for Western blots: 66 µl NBT stock solution and 33 µl BCIP stock solution in 10 ml staining buffer (100 mM NaCl, 5 mM MgCl2, 100 mM Tris; pH 9.5).

For added convenience ready-to-use BCIP/NBT solutions are provided: SERVAColor BCIP/NBT Blot Solution, cat. no. 15245 and BCIP/NBT Ready-To-Use Substrate for Immunohistochemistry and Blotting, cat. no. 15246.

Assay (HPLC) min. 99.0 %

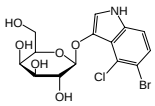
References:

1. Wolf, P.L. et al. (1973) Clin. Chem. ***19,*** 1248-9

Cat.No.	Size
15247.03	500 mg

5-Bromo-4-chloro-3-indolyl-β-D-galactoside (X-Gal) research grade

(X-Gal)
$C_{14}H_{15}BrClNO_6$ ♦ M_r 408.6 ♦ CAS [7240-90-6]



EINECS 230-640-8 ♦ WGK 1 ♦ HS 29389090
Storage temperature +2 °C to +8 °C

X-Gal is a well known histochemical substrate used to detect the β-galactosidase enzyme (1, 2, 3, 4, 9, 10). Identification of lac^{-}-colonies (8). X-gal is used to distinguish recombinant plasmids from parental vectors in cloning experiments using vectors containing the lacZ or lacZ [DMvP1](-)peptide gene (2, 3, 5). Upon hydrolysis, X-Gal yields a localized, insoluble blue precipitate making it exceptionally useful in blotting, immunocytochemical, and ELISA assays. X-Gal has been used for the detection of coliforms (*E. coli*) in municipal water supplies (6) and food products (7). X-Gal is often used in conjunction with IPTG (Isopropyl-β-D-thiogalactopyranoside, cat. no. 26600) which binds and inhibits the lac repressor thus inducing β-galactosidase activity.

Stock solution: 20 mg/ml in DMF. Store in aliquots at -20 °C in the dark. For detection of transformants, use in final concentration of 40 µg/ml.

Assay (HPLC) min. 99.0 %

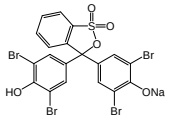
References:

1. Maloy, S.R. (1990) Experimental Techniques in Bacterial Genetics, Jones and Bartlett (eds.), Boston, MA
2. Miller, J.H.(1992) A Short Course in Bacterial Genetic, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y.
3. Sambrook, J. et al. (1989) Molecular Cloning: A Laboratory Manual, 2nd. ed., Cold Spring Harbor Laboratory Press, Cold Spring Harbor (4.8, 4.22-4.23, 4.33, 4.37-4.38, 1.85-1.86, B.14)
4. Horowitz, J. et al. (1964) J. Med. Chem. ***7,*** 574
5. Brand, A. and Perrimon, N. (1993), Development ***118,*** 401
6. Ley, A. et al. (1993) Can. J. Microbio. ***39,*** 821
7. Feldsine, P.T. et al. (1993) J. AOAC Int. ***76,*** 5
8. Lojda, Z. et al. (1973) Histochemie ***34,*** 31-9
9. Lojda, Z. et al. (1979) in »Enzyme Histochemistry, A Laboratory Manual«, Springer-Verlag Berlin, Heidelberg, New York
10. Davies et al. (1980) Advanced Bacterial Genetics, Cold Spring Harbor, N.Y.

Cat.No.	Size
15243.06	250 mg
15243.03	1 g

Bromophenol Blue·Na-salt

(3'-3''-5'-5''-Tetrabromophenol sulfonphthalein)
$C_{19}H_9Br_4O_5S \cdot Na$ ♦ M_r 692.0 ♦ CAS [34725-61-6]



EINECS 252-170-2 ♦ WGK 2L ♦ HS 32049000

Bromophenol Blue is a pH indicator (pH 3.4 yellow - 4.6 purple) and a tracking dye for nucleic acid or protein electrophoresis in agarose or polyacrylamide gels. Due to the slightly negative charge, the dye will migrate to the anode during electrophoresis, which allows monitoring of the movement of the molecules through the gel.

λ max. (0.001 % in water) 594 ± 4 nm

Cat.No.	Size
15375.01	5 g
15375.02	25 g

BSA

see 11920 Albumin Bovine, page 7

Buffer Kit for 2D HPE™ Gels

HS 38220000

Anode, cathode and equilibration buffer, cooling contact fluid and electrode wicks for all flatbed gels.

Cat.No.	Size
43312.01	1 kit

Buffer Substance Dulbecco's

(PBS)
HS 38220000

Dulbecco's phosphate buffered saline (DPBS), without calcium and magnesium; without phenol red; powder. Balanced salt solution used in a wide variety of cell and tissue culture applications like stabilizing of a physiological pH in cell culture media, washing cells prior to dissociation, transfection or passaging, and maintaining cell tonicity and viability during transport of cells or tissues.

References:

1. Dulbecco, R. & Vogt, M. (1954) J. Exp. Med. ***99,*** 17-82
2. Hanks, J.H. & Wallace, R.E. (1949) Proc. Soc. Exp. Biol. Med. ***71,*** 196-200

Cat.No.	Size
47302.02	10 L
47302.03	50 L

n-Butanol molecular biology grade

(1-Butanol)
$C_4H_{10}O$ ♦ M_r 74.12 ♦ CAS [71-36-3]

DANGER
H226-H302-H315-H318-H335-H336 ♦ MAK/TRK 310 mg/m³; 100 ml/m³ ♦ EG-Index 603-004-00-6 GGVSE/ADR 3 III UN1120 ♦ IATA 3 III UN1120 ♦ EINECS 200-751-6 ♦ WGK 1L ♦ HS 29051300

n-Butanol is used for the removal of ethidium bromide from DNA purified by CsCl gradient ultracentrifugation. It is also useful for the concentration of diluted nucleic acid solutions by repeated extractions.

Assay min. 99.0 %

References:

1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (1.46, E16)
2. Ed. Ausubel et al., (2000) Current Protocols in Molecular Biology, Wiley & Sons, Inc. (New York, NY), 7.6.5 Suppl.

Cat.No.	Size
39550.01	500 ml

Cacodylic acid·Na-salt·3H_2O research grade

(Sodium cacodylate)
$C_2H_6AsO_2 \cdot Na \cdot 3H_2O$ ♦ M_r 214.0 ♦ CAS [6131-99-3]

DANGER
H301-H331-H410 ♦ EG-Index 033-002-00-5 ♦ GGVSE/ADR 6.1 II UN1688 ♦ IATA 6.1 II UN1688 ♦ EINECS 204-708-2 ♦ WGK 3 ♦ HS 29319080

For buffers, especially for bactericidal buffers used in electron microscopy.

Assay (titr.) min. 98.0 %

Cat.No.	Size
15540.02	100 g
15540.03	500 g

Calcium chloride pure, anhydrous

$CaCl_2$ ♦ M_r 110.99 ♦ CAS [10043-52-4]

WARNING
H319 ♦ EG-Index 017-013-00-2 ♦ EINECS 233-140-8 ♦ WGK 1L ♦ HS 28272000

Economical drying agent for drying processes in laboratories like drying of liquids, neutral gases and a wide variety of solvents. It is as well a component of insect and plant cell culture media.

Assay (titr.) min. 98.0 %

Cat.No.	Size
15585.02	500 g

Calcium hypochlorite research grade

$Ca(OCl)_2$ ♦ M_r 142.98 ♦ CAS [7778-54-3]

DANGER
H272-H302-H314-H400 ♦ EG-Index 017-012-00-7 ♦ GGVSE/ADR 5.1 II UN1748 ♦ IATA 5.1 II UN1748 ♦ EINECS 231-908-7 ♦ WGK 2 ♦ HS 28281000

Calcium hypochlorite is used as a disinfectant, oxidant and chlorinating agent. It cleaves glycols, α-hydroxy carboxylic acids and keto acids to yield fragmented aldehydes or carboxylic acids.

MP	100 °C
d20 °C	2.350
Active chlorine	min. 65.0 %

Cat.No.	Size
15591.02	500 g

Canada balsam for microscopy

CAS [8007-47-4]

EINECS 232-362-2 ♦ WGK 2L ♦ HS 13019000

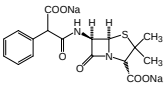
Non-aqueous mounting medium for preparation of permanent slides for light microscopy. It is produced from the resin of the balsam fir tree.

Refractive index (20 °C) 1.520 - 1.525

Cat.No.	Size
26896.02	100 ml

Carbenicillin·Na_2-salt research grade

(α-Carboxybenzylpenicillin·disodium salt)
$C_{17}H_{16}N_2O_6S \cdot Na_2$ ♦ M_r 422.37 ♦ CAS [4800-94-6]



DANGER
H317-H334 ♦ EINECS 225-360-8 ♦ WGK 1 ♦ HS 29411000

Storage temperature +2 °C to +8 °C

Semisynthetic derivative of benzylpenicillin G. Inhibitor of bacterial cell wall synthesis. Active above all against gram negative bacteria, less against gram positive. Used in molecular biology for selection of resistant strains (2). In plant cell culture often in combination with streptomycin or nystatin to prevent bacterial contamination (3,4). Effect on somatic embryo genesis (5).

References:

1. Butler et al. (1970) J. Infec. Dis. ***122,*** Suppl. 81
2. Sambrook, J. et al. (2001) A Laboratory Manual, 3rd ed., Cold Spring Harbor, NY
3. Horsch, R.B. a. King, J. (1983) Plant Cell Tiss. Organ Cult. ***2***, 21-8
4. Watts, J.W. a. King, J.M. (1973) Planta ***113***, 271-7
5. Sarma, K.S. Et al. (1995) . J. Exp. Bot. ***46***, 1779-81

Cat.No.	Size
15875.03	5 g

Carbonic anhydrase from bovine erythrocytes ca. 1.5 U/mg lyophil.

(Carbonate dehydratase; Carbonate hydrolyase)
EC 4.2.1.1. ♦ M_r ca. 29 000 ♦ CAS [9001-03-0]

DANGER
H334 ♦ EINECS 232-576-6 ♦ WGK 1 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

Carbonic anhydrase preparation, which is homogeneous in SDS-PAGE. The enzyme preparation can therefore be used as a marker in protein gel electrophoresis and as a bioreagent in gel filtration chromatography, protein chromatography and plasma and blood proteins. Contains carbonic anhydrases A and B; both forms have similar high specific activities and therefore belong to the C-group of mammalian carbonic anhydrases (1). Carbonic Anhydrase is a zinc-containing enzyme that catalyzes the reversible conversion of carbon dioxide to bicarbonate. It plays a main role in physiological processes like respiration, ion transport, acid–base balance, lipid and carbohydrate metabolic pathways.

Unit definition: 1 U catalyzes the hydrolysis of 1 µmole 4-nitrophenyl acetate per minute at 25 °C, pH 7.6 (2).

Activity in other units: ca. 4000 Wilbur-Anderson units/mg (3).

References:
1. Lindskog, S. et al. (1971) The Enzymes (Boyer, P.D., ed.) ***5,*** 587-665
2. Armstrong, J. McD. et al. (1966) J. Biol. Chem. ***241,*** 5137-49
3. Wilbur, K.M. & Anderson, N.G. (1948) J. Biol. Chem. ***176,*** 147-54

Cat.No.	Size
15882.01	25 mg
15882.02	100 mg

Carbopol® 934 pract.

WGK 1L ♦ HS 39069090

A carboxyvinyl-polymer with a very high molecular weight. The powder supplied as the free acid is soluble in water up to 5 % and forms a solution of fairly low viscosity with pH ca. 3. Upon neutralization with sodium hydroxide a highly viscous gel is formed, even at a concentration of only 0.1 %. Tackifier, emulsion and suspension stabilizer. White, hygroscopic powder, physiologically harmless.

Carbopol = registered trademark of B.F. Goodrich Chemical Co.

Cat.No.	Size
15885.01	100 g
15885.02	500 g

α-Carboxybenzylpenicillin·disodium salt

see 15875 Carbenicillin·Na_2-salt, page 22

Carrier Ampholytes

see 42902 SERVALYT™ 2-4, page 117

Casting gates for BlueMarine™ 100

HS 90271090

Gel width 7 cm.

Cat.No.	Size
BM-100-3	2 pieces

Casting gates for BlueMarine™ 200

HS 90279050

Gel width 15 cm.

Cat.No.	Size
BM-200-3	2 pieces

Catalase from *Aspergillus niger* ca. 1800 U/mg

lyophil. salt-free

EC 1.11.1.6 ♦ M_r ca. 240 000 ♦ CAS [9001-05-2]

DANGER
H334 ♦ EINECS 232-577-1 ♦ WGK 1L ♦ HS 35079090
Storage temperature -15 °C to -25 °C

Catalase is used for the removal of peroxides, the generation of oxygen and, in coupled systems, for the determination of metabolites e.g. uric acid (1). A very stable preparation particularly suitable for immobilization.

Unit definition: 1 U catalyzes the cleavage of 1 µmole hydrogen peroxide per minute to water and oxygen at 25 °C, pH 7. The decrease in hydrogen peroxide concentration can be followed spectrophotometrically at 240 nm (1).

References:
1. Bartl, K. & Ziegenhorn, J. (1985) Methods of Enzymatic Analysis (Bergmeyer, H.U., ed.) 3rd Ed. Vol. ***7,*** p. 134-46
2. Aebi, H.E. (1983) Methods of Enzymatic Analysis (Bergmeyer, H.U., ed.) 3rd Ed. Vol. ***3,*** p. 277-86

Cat.No.	Size
26905.01	100 mg

Catalase from bovine liver ca. 11 000 U/mg lyophil. salt-free

EC 1.11.1.6 ♦ M_r ca. 240 000 ♦ CAS [9001-05-2]

DANGER
H334 ♦ EINECS 232-577-1 ♦ WGK 1L ♦ HS 35079090
Storage temperature -15 °C to -25 °C

Catalase is used for the removal of peroxides, the generation of oxygen and, in coupled systems, for the determination of metabolites e.g., uric acid (1). The enzyme preparation is homogeneous in SDS-PAGE. Activity: ca. 40 000 U/mg protein.

References:
1. Bergmeyer, H.U. (1983) Methods of Enzymatic Analysis (Bergmeyer, H.U., ed) 3rd Ed. Vol. ***2***, p. 165-6

Cat.No.	Size
26910.01	250 mg
26910.02	1 g

Cathode Fluid 10 for IEF

DANGER
H314-H317-H334 ♦ GGVSE/ADR 8 III UN3267 ♦
IATA 8 III UN3267 ♦ WGK 2 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Contains 0.22 g L-arginine base, 0.18 g L-lysine base, 6.0 ml ethylene diamine in 50 ml water. Recommended for general use with SERVALYT™ PRECOTES™.

Cat.No.	Size
42986.03	50 ml

Celite™ 545 pract.

CAS [68855-54-9]

WARNING
H373 ♦ EINECS 272-489-0 ♦ WGK - ♦ HS 38029000

Diatomaceous earth may be used as an adsorbent for column chromatography. Purified and calcined, average particle size 0.02 - 0.08 mm
Celite = registered trademark of Manville Corp.

Cat.No.	Size
16391.02	2 kg

Cellulase »Onozuka« R-10 from *Trichoderma viride* ca. 1 U/mg

CAS [9012-54-8]

DANGER
H334 ♦ EG-Index 647-002-00-3 ♦ EINECS 232-734-4 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

A multi-component enzyme system (1). Although the preparation has high cellulase activity, it still contains hemicellulases, and it degrades mannans, xylans, galactomannans, pectins and other polysaccharides. Widely used for the isolation of protoplasts, for its ability to degrade cell walls, often in combination with Macerozyme R-10 (cat. no. 28302) (2).

Temperature optimum: 40 - 50 °C
pH-optimum: pH 4 - 5

Unit definition: 1 U catalyzes the liberation of 1 µmole glucose from sodium carboxymethyl cellulose per minute at 40 °C, pH 4.5; glucose determined with alkaline copper reagent (3).

Extraneous activities: α-amylase ca. 0.8 U, pectinase ca. 0.4 U, protease ca. 0.01 DMC-U, hemicellulase ca. 1 U/mg (1 U catalyzes the liberation of 1 µmole reducing groups from xylan per hour at 37 °C, pH 5.5, calculated as xylose).

References:
1. Beldman, G. et al. (1985) Eur. J. Biochem. ***146,*** 301-8
2. Potrykus, J. & Shillito, R.D. (1986) Methods Enzymol. ***118,*** 549-78
3. Okada, G. (1988) Methods Enzymol. Vol. ***160,*** 259-63
4. Lendl & Bauer (1989) Zell- und Gewebekultur, Gustav Fischer Verlag, 147ff.

Cat.No.	Size
16419.02	2,5 g
16419.03	10 g
16419.05	50 g

Cellulase »Onozuka« RS from *Trichoderma viride* ca. 2 U/mg

CAS [9012-54-8]

DANGER
H334 ♦ EG-Index 647-002-00-3 ♦ EINECS 232-734-4 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

A multi-component enzyme system (1). Although the preparation has high cellulase activity (EC 3.2.1.4), it still contains hemicellulases, and it degrades mannans, xylans, galactomannans, pectins and other polysaccharides. Contains about three times as high xylanase activity as Cellulase Onozuka R-10 (cat. no. 16419). Widely used for the isolation of protoplasts, for its ability to degrade cell walls, often in combination with Macerozyme R-10 (cat. no. 28302) (2).

Temperature optimum: 50 - 60 °C
pH-optimum: pH 4 - 5

Unit definition: 1 U catalyzes the liberation of 1 µmole glucose from sodium carboxymethyl cellulose per minute at 40 °C, pH 4.5; glucose determined with alkaline copper reagent (3).

Extraneous activities: Contains α-amylase, pectinase, protease and hemicellulase.

References:
1. Beldman, G. et al. (1985) Eur. J. Biochem. ***146,*** 301-8
2. Potrykus, J. & Shillito, R.D. (1986) Methods Enzymol. ***118,*** 549-78
3. Okada, G. (1988) Methods Enzymol. Vol. ***160,*** 259-63
4. Lendl & Bauer (1989) Zell- und Gewebekultur, Gustav Fischer Verlag, 147ff.

Cat.No.	Size
16420.01	1 g
16420.02	5 g

Cellulose microcrystalline ca. 0.02 mm research grade

(Avicel PH 105®; previously Avicel TG 104; Avicel SF)
CAS [9004-34-6]

EINECS 232-674-9 ♦ WGK - ♦ HS 39129090

Suitable for TLC, no binder required.

Avicel = registered trademark of FMC, Brussels.

Cat.No.	Size
14205.02	1 kg

Cellulose microcrystalline ca. 0.05 mm

research grade, Ph. Eur., USP/NF

(Avicel PH 101®; previously Avicel TG 101; Avicel PH)
CAS [9004-34-6]

EINECS 232-674-9 ♦ HS 39129090

Avicel = registered trademark of FMC, Brussels.

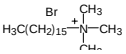
Cat.No.	Size
14204.02	1 kg

Cetrimide C16

see 16530 Cetyltrimethylammonium·bromide, page 24

Cetyltrimethylammonium·bromide cryst. pure

(CTAB; Cetrimide C16; Cetrimonium bromide; Hexadecyltrimethyl ammonium·bromide; Palmityltrimethyl-ammonium·bromide)



$C_{19}H_{42}N^+Br$ ♦ M_r 364.46 ♦ CAS [57-09-0]

WARNING
H302-H315-H319-H400-H410 ♦ GGVSE/ADR 9 III UN3077 IATA 9 III UN3077 ♦ EINECS 200-311-3 ♦ WGK 3L ♦ HS 29239000

Cationic surfactant used instead of SDS in electrophoresis of highly charged and membrane protein subunits (1). Surfactant for modifying silica for HPLC (2). Suitable for cell permeabilization (3) and DNA isolation (4). Increases the efficiency of chemiluminescence (5, 6).

Assay (titr.) min. 99.0 %

References:
1. Eley, M. et al. (1979) Anal. Biochem. ***92,*** 411-9
2. Hansen, S.H. et al. (1981) J. Chromatogr. ***210,*** 453-60
3. Joshi, M.S. et al. (1989) Biotechnol. Lett. ***11,*** 349-52
4. Milligan, B.G. (1989) Plant Mol. Biol. Rep. ***7,*** 144-9
5. Abdel-Latif, M.S. & Guibault, G.G. (1989) Anal. Chim. Acta ***221,*** 11-7
6. Aiken, J.H. & Huie, C.W. (1991) Anal. Lett. ***24,*** 167-80

Cat.No.	Size
16530.04	100 g
16530.02	500 g

CHAPS

see 17038 3-[(3-Cholamidopropyl)dimethylammonio]-1-propanesulfonate, page 25

Chemiluminescence Reagent for Horseradish Peroxidase

HS 38220000
Storage temperature +2 °C to +8 °C

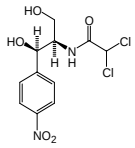
Ready-to-use substrate solution for chemiluminescence detection of membrane bound antigens or nucleic acid sequences directly with Horseradish Peroxidase (HRP) or indirectly with HRP-conjugated antibodies or Streptavidin labelled (1). Prior before use add 30 % hydrogen peroxide in a 1:1000 dilution (not provided) and use 100 µl/cm².

- High resolution and sensitivity
- Short exposure time
- Document your results on film or with a chemiluminescence applicable gel documentation system.

References:
1. Thorpe, G.H.G. and Kricka, L. J. (1986) Methods Enzymol.***133***, 331 – 353

Cat.No.	Size
42582.01	250 ml
42582.02	500 ml

Chloramphenicol research grade, Ph. Eur.



(Chloromycetin; D-threo-2,2-dichloro-N-[β-hydroxy-α(hydroxymethyl)-β-(4-nitrophenyl)ethyl]acetamide; D-threo-2-dichloroacetamido-1-(4-nitrophenyl)-‘1,3-propanediol)

$C_{11}H_{12}Cl_2N_2O_5$ ♦ M_r 323.1 ♦ CAS [56-75-7]

DANGER
H317-H334-H340-H350-H361d ♦
EINECS 200-287-4 ♦ WGK 3 ♦ HS 29414000

Chloramphenicol is an antibiotic, isolated from strains of *Streptomyces venezuelae*. It blocks bacterial protein synthesis by inhibiting the peptidyl transferase activity of the 50S ribosomal subunit. The antibiotic has a broad application range against gram positive and gram negative bacteria. Chloramphenicol is used for bacterial selection and plasmid amplification in molecular biology applications and as a selection agent for transformed cells containing chloramphenicol reistance genes. A stock solution of 50 mg/ml in ethanol yield a clear, very faint yellow solution. For selection of chloramphenicol-resistant *Escherichia coli* a concentration of 30 - 50 µg/ml are typically used.

Assay (UV) 98.0 - 102.0 %

References:

1. Wal, J. et al. (1978) J. Chromatogr. ***145,*** 502-6
2. Danzer, L.A. (1983) Clin. Chem. ***29,*** 856-8
3. Rüssel, H. (1978) Chromatographia ***11***, 341-3
4. Long, K.S. & Porse, B.T. (2003) Nucl. Acids Res. ***31***,7208-15
5. Izard, T. (2001) Protein Sci. ***10***, 1508-13
6. Schwarz, S. et al. (2004) FEMS Microbiol. Rev. ***28***, 519-42
7. Zhu, H. et al. (2011) Int. J. Agric. Biol. ***13***, 677-82
8. Munshi, T. et al. (2013) PLOS ONE ***8(3)***:e60143

Cat.No.	Size
16785.03	25 g
16785.02	100 g

Chloroform molecular biology grade

(Trichloromethane)
$CHCl_3$ ♦ M_r 119.4 ♦ CAS [67-66-3]

WARNING
H302-H315-H319-H331-H351-H361d-H372 ♦ Carc. 2 ♦ MAK/TRK 2.5 mg/m³; 0.5 ml/m³ ♦ EG-Index 602-006-00-4 GGVSE/ADR 6.1 III UN1888 ♦ IATA 6.1 III UN1888 ♦ EINECS 200-663-8 ♦ WGK 3L ♦ HS 29031300

Suitable for nucleic acid purification and for removal of traces of phenol from aqueous DNA and RNA samples.

Assay (GC)	99.9 - 100.0 %
Density (20 °C)	1.478 - 1.482
Water	max. 0.05 %
Acidity	max. 0.001 %
Residue on evaporation (w/w %)	max. 0.0005 %

Cat.No.	Size
39553.01	250 ml

Chloroform analytical grade

(Trichloromethane)
$CHCl_3$ ♦ M_r 119.4 ♦ CAS [67-66-3]

DANGER
H302-H315-H319-H331-H351-H361d-H372 ♦ EG-Index 602-006-00-4 ♦ GGVSE/ADR 6.1 III UN1888 ♦ IATA 6.1 III UN1888 ♦ EINECS 200-663-8 ♦ WGK 3 L ♦ HS 29031300

Widely used solvent in biochemical and molecular biology applications, suitable in combination with methanol for protein precipitation according to Wessel & Flügge (1).

Assay (GC)	99.9 - 100.0 %
Density (20 °C)	1.478 – 1.482
Water	max. 0.05 %
Acidity	max. 0.001 %
Residue on evaporation (w/w %)	max. 0.0005 %

References:

1. Wessel, D Flügge, U.I. (1984) Anal. Biochem. ***138***, 141-43

Cat.No.	Size
45627.03	1 L

Chloroform:Isoamyl alcohol 24:1 molecular biology grade

WARNING
H302-H315-H335-H351-H373 ♦ GGVSE/ADR 6.1 III UN2810 ♦ IATA 6.1 III UN2810 ♦ WGK 3 ♦ HS 38220000

DNase, RNase, Proteases not detected. Mixture of chloroform and isoamyl alcohol (ratio 24:1). Bottled under inert gas. Suitable for nucleic acid purification. Improves efficiency of nucleic acid extraction.

Assay
Chloroform (cat. no. 39553) min. 99.9 %
Isoamyl alcohol (cat. no. 39557) min. 99.0 %

References:

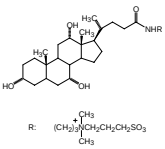
1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (E.3-E.4)

Cat.No.	Size
39554.02	500 ml

Chloromycetin

see 16785 Chloramphenicol, page 25

3-[(3-Cholamidopropyl)dimethylammonio]-1-propanesulfonate research grade



(CHAPS)
$C_{32}H_{58}N_2O_7S$ ♦ M_r 614.9 ♦ CAS [75621-03-3]

WARNING
H315-H319-H335 ♦ WGK 1 ♦ HS 29239000

3-[(3-Cholamidopropyl)dimethylammonio]-1-propanesulfonate or CHAPS is a mild, zwitterionic sulfobetaine detergent, which is non-denaturing to membrane proteins, can solubilize proteins, and disaggregate protein-protein interactions (1 - 5).
Due to its zwitterionic nature, CHAPS does not exhibit a net charge between pH 2 to 12, making it also useful in ion exchange chromatography and isoelectric focusing.
CHAPS is as well suitable for enzyme immunoassay (6) and as a component of lysis buffer for tissue homogenization, in denaturing buffer in enzyme characterization and of 2D sample buffer in 2D electrophoresis.
Its small micellar molecular weight and high critical micellar concentration allowing it to be removed from samples by dialysis. CMC (25 °C) 4.2 - 6.5 mM, Na (25 °C) 9 - 10

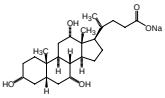
Assay (from HPLC) min. 97.0 %

References:

1. Hjelmeland, L.M. (1980) Proc. Natl. Acad. Sci. USA ***77,*** 6368-70
2. Naldini, L. et al. (1990) Biochemistry ***29,*** 5153-60
3. Kierdaszuk, B. & Eriksson, S. (1990) Biochemistry ***29,*** 4109-114
4. Bonfils, C. & Combalbert, J. (1990) Electrophoresis ***11,*** 182-6
5. Ambar, J. et al. (1989) Eur. J. Pharmacol. ***170,*** 119-20
6. Leblond, F.A. et al. (1989) J. Immunol. Methods ***124,*** 71-5

Cat.No.	Size
17038.02	5 g
17038.03	25 g
17038.04	100 g

Cholic acid·Na-salt analytical grade



(Sodium cholate)
$C_{24}H_{39}O_5$·Na ♦ M_r 430.5 ♦ CAS [361-09-1]

EINECS 206-643-5 ♦ WGK 1 ♦ HS 29181930

Important surfactant in membrane chemistry. Excellent solubilizer for receptors, pigments and phospholipids.

Assay (titr.) min. 98.0

References:

1. Helenius, A. et al. (1979) Methods Enzymol ***56,*** 734-49
2. Lopez-Corcuera, B. & Aragon, C. (1989) Eur. J. Biochem. ***181,*** 519-24
3. Kavanaugh, M.P. et al. (1989) J. Neurochem. ***53,*** 1575-80
4. Malloy, R.C. & Binford, J.S. Jr. (1990) J. Phys. Chem. ***94,*** 337-45

Cat.No.	Size
17126.03	500 g

Chromotrope FB

see 14410 Azorubin, page 14

Ciprofloxacin Hydrochloride research grade

CAS [86393-32-0]

WARNING
H319-H412 ♦ WGK 2 ♦ HS 29419000
Storage temperature +2 °C to +8 °C

Ciprofloxacin HCl is a second generation fluoroquinolone antibiotic. Fluoroquinolone antibiotics target bacterial DNA gyrase, an enzyme which reduces DNA strain during replication. Because DNA gyrase is required during DNA replication, subsequent DNA synthesis and cell division is inhibited.
Ciprofloxacin is a broad spectrum antibiotic targeting a wide variety of gram positive and gram negative bacteria. Many mycoplasma strains, inclusive *A. laidlawii, M. orale, M. hyorhinis, M. fermentas*, and *M. arginine*, react sensitive to ciprofloxacin. Since these strains are responsible for most of the contaminations in cell culture, it can be used for removal of mycoplasma contamination. At the recommended concentration of ca. 1 µg/ml no cytotoxic effects occur.
Ciprofloxacin HCl is freely soluble at 35 mg/ml.

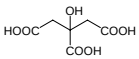
Content (dry substance) 98.0 - 102.0 %
pH pH 3.5 – 4.5

References:
1. Wolfson, John S., & Hooper D. C. (1985) Am. Soc. for Microbiol. 4th ser. ***28***, 581 - 86

Cat.No.	Size
47977.01	5 g

Citric acid·H_2O analytical grade

$C_6H_8O_7 \cdot H_2O$ ♦ M_r 210.1 ♦ CAS [5949-29-1]



WARNING
H319 ♦ EINECS 201-069-1 ♦ WGK 1 ♦
HS 29181400

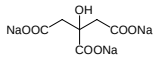
Used to prepare citrate buffer for antigen retrieval of tissue samples. The citrate solution is designed to break protein cross-links, thus unmasking antigens and epitopes in formalin-fixed and paraffin embedded tissue sections, and resulting in enhanced staining intensity of antibodies. It has an anticoagulant activity and forms as a calcium chelator complexes that disrupt the tendency of blood to clot.

Assay (hydrate) 99.5 - 101.0 %

Cat.No.	Size
38640.01	500 g
38640.02	1 kg

Citric acid·Na_3-salt·$2H_2O$ analytical grade, Ph. Eur.

(tri-Sodium citrate)
$C_6H_5O_7 \cdot Na_3 \cdot 2H_2O$ ♦ M_r 294.1 ♦ CAS [6132-04-3]



EINECS 200-675-3 ♦ WGK 1L ♦ HS 29181500

Buffering agent, resisting changes in pH. Due to its chelating effect and stabilization of nucleic acids, it is used for preparation of sodium citrate buffer for use in SSC solution and other buffers for molecular biology.

Assay (titr.) 99.0 - 101.0 %

Cat.No.	Size
38642.02	1 kg

CleanGel IEF for PhastSystem™ Size: 50 x 42 x 0.43 mm

HS 38220000
Storage temperature -15 °C to -25 °C

Rehydratable film supported polyacrylamide mini gel for IEF on PhastSystem™.

Cat.No.	Size
43350.01	20 gels

Cleland's reagent

see 20711 Dithiothreitol, page 34

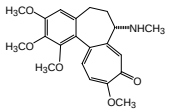
Cleland's reagent

see 20710 Dithiothreitol, page 34

Cleland's reagent

see 20697 Dithioerythritol, page 34

Colcemid™ solution 10 µg/ml sterile filtered



(Demecolcine solution)
HS 38220000
Storage temperature -15 °C to -25 °C

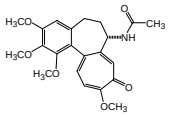
Colchicine inhibits microtubule polymerization by binding to tubulin, which disrupts spindle formation during mitosis. Since increased rate of mitosis is associated with cancer cell proliferation, blocking microtubule function with colchicine has been used as an approach to anti-cancer therapy. Its mitosis-inhibiting function is also utilized to perform karyotypes in genetic studies.
Colchicine blocks chromosome segregation during meiosis. Therefore it is used to induce polyploidy (tetraploid) in plant cells.

Cat.No.	Size
47253.01	25 ml

t

Colchicine cryst. research grade, USP

$C_{22}H_{25}NO_6$ ♦ M_r 399.44 ♦ CAS [64-86-8]



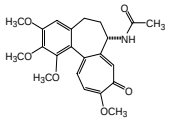
DANGER
H300-H340 ♦ Muta. 1B ♦ EG-Index 614-005-00-6 ♦ GGVSE/ADR 6.1 I UN1544 ♦ IATA 6.1 I UN1544 ♦
EINECS 200-598-5 ♦ WGK 3L ♦ HS 29399900

Colchicine inhibits microtubule polymerization by binding to tubulin, which disrupts spindle formation during mitosis. Since increased rate of mitosis is associated with cancer cell proliferation, blocking microtubule function with colchicine has been used as an approach to anti-cancer therapy. Its mitosis-inhibiting function is also utilized to perform karyotypes in genetic studies.
Colchicine blocks chromosome segregation during meiosis. Therefore it is used to induce polyploidy (tetraploid) in plant cells.

Assay (HPLC) 94.0 - 101.0 %

Cat.No.	Size
77120.01	250 mg
77120.02	1 g
77120.03	5 g

Colchicine solution 10 µg/ml sterile filtered



HS 38220000
Storage temperature -15 °C to -25 °C

In PBS.
Colchicine inhibits microtubule polymerization by binding to tubulin, which disrupts spindle formation during mitosis. Since increased rate of mitosis is associated with cancer cell proliferation, blocking microtubule function with colchicine has been used as an approach to anti-cancer therapy. Its mitosis-inhibiting function is also utilized to perform karyotypes in genetic studies.
Colchicine blocks chromosome segregation during meiosis. Therefore it is used to induce polyploidy (tetraploid) in plant cells.

Cat.No.	Size
47252.01	25 ml

Collagen R solution 0.2 % sterile

M_r ca. 300 000

HS 35040090
Storage temperature +2 °C to +8 °C

Type 1 rat tail collagen; 2 mg/ml in 0.1 % acetic acid. Excellent substrate for the culture of hepatocytes, fibroblasts, and epithelial cells. Preparation of collagen film and gels (1, 2).

References:
1. Strom, S.C. & Michalopoulos, G. (1982) Methods Enzymol. ***82,*** 544-55
2. Miller, E.J. (1976) Mol. Cell. Biochem. ***13,*** 165-91

Cat.No.	Size
47254.01	20 ml
47254.02	100 ml

Collagen R solution 0.4 % sterile

M_r ca. 300 000

HS 38220000
Storage temperature +2 °C to +8 °C

Type I rat tail collagen; 4 mg/ml in 0.1 % acetic acid. Excellent substrate for the culture of hepatocytes, fibroblasts, and epithelial cells. Preparation of collagen film and gels (1, 2).

References:
1. Strom, S.C. & Michalopoulos, G. (1982) Methods Enzymol. ***82,*** 544-55
2. Miller, E.J. (1976) Mol. Cell. Biochem. ***13,*** 165-91

Cat.No.	Size
47256.01	20 ml

Collagenase substrate per E. Wünsch

(4-Phenylazobenzyloxycarbonyl-Pro-Leu-Gly-Pro-D-Arg)
$C_{38}H_{52}N_{10}O_8$ ♦ M_r 776.9 ♦ CAS [17011-78-8]

EINECS 241-086-1 ♦ WGK 1 ♦ HS 29241900
Storage temperature -15 °C to -25 °C

Collagenase catalyzes the hydrolysis of the chromo-peptide Phenylazobenzyloxycarbonyl-Pro-Leu-Gly-Pro-D-Arg. The resulting fragment Phenylazobenzyloxycarbonyl-Pro-Leu can be spectrophotometrically detected.

Purity (HPLC) > 97.0 %

References:
1. Wünsch, E. & Heidrich, H.G. (1963) Hoppe-Seyler's Z. Physiol. Chem. ***333,*** 149-51
2. Evans, C.H. (1981) Biochem. J. ***195,*** 677-84
3. Strauch, L. & Vencelj, H. (1967) Hoppe-Seyler's Z. Physiol. Chem. ***348,*** 465-8
4. Reil-Dlouha, V. et al. (1976) J. Mol. Biol. ***107,*** 293-305
5. Nagelschmidt, M. et al. (1979) Biochem. Biophys. Acta ***571,***105-11

Cat.No.	Size
52268.02	50 mg

Comb 1.0 mm, 10 wells, for BlueVertical™ PRiME™ Casting Stand

HS 90272000

Cat.No.	Size
BV-10-1.0	1 piece

Comb 1.0 mm, 12 wells, for BlueVertical™ PRiME™ Casting Stand

HS 90272000

Cat.No.	Size
BV-12-1.0	1 piece

Comb 1.0 mm, 15 wells, for BlueVertical™ PRiME™ Casting Stand

HS 90272000

Cat.No.	Size
BV-15-1.0	1 piece

Comb 1.5 mm, 10 wells, for BlueVertical™ PRiME™ Casting Stand

HS 39269097

Cat.No.	Size
BV-10-1.5	1 piece

Comb 1.5 mm, 12 wells, for BlueVertical™ PRiME™ Casting Stand

HS 90272000

Cat.No.	Size
BV-12-1.5	1 piece

Comb 1.5 mm, 15 Wells, for BlueVertical™ PRiME™ Casting Stand

HS 90272000

Cat.No.	Size
BV-15-1.5	1 piece

Comb 0.75 mm, 15 wells, for BM-100 (Gel width 7 cm)

HS 39269097

Number of wells:	15
Thickness of comb (mm):	0.75
Width of well (mm):	6
Depth of well (mm):	10
Sample volume (µl)	14

Cat.No.	Size
BM-100-15-0.75	1 piece

Comb 1.0 mm, 10 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	10
Thickness of comb (mm):	1.0
Width of well (mm):	12
Depth of well (mm):	10
Sample volume (µl)	35

Cat.No.	Size
BM-200-10-1.0	1 piece

Comb 1.0 mm, 12 wells, for BM-100 (Gel width 7 cm)

HS 39269097

Number of wells:	12
Thickness of comb (mm):	1.0
Width of well (mm):	3.7
Depth of well (mm):	10
Sample volume (µl)	10

Cat.No.	Size
BM-100-12-1.0	1 piece

Comb 1.0 mm, 16 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	16
Thickness of comb (mm):	1.0
Width of well (mm):	7
Depth of well (mm):	10
Sample volume (µl)	20

Cat.No.	Size
BM-200-16-1.0	1 piece

Comb 1.0 mm, 20 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	20
Thickness of comb (mm):	1.0
Width of well (mm):	5
Depth of well (mm):	10
Sample volume (µl)	15

Cat.No.	Size
BM-200-20-1.0	1 piece

Comb 1.0 mm, 26 wells-MC, for BM-200 (Gel width 15 cm)

HS 39269097

Multichannel-pipette comb

Number of wells:	26
Thickness of comb (mm):	1.0
Width of well (mm):	4
Depth of well (mm):	10
Sample volume (µl)	12

Cat.No.	Size
BM-200-M26-1.0	1 piece

Comb 1.0 mm, 26 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	26
Thickness of comb (mm):	1.0
Width of well (mm):	4
Depth of well (mm):	10
Sample volume (µl)	12

Cat.No.	Size
BM-200-26-1.0	1 piece

Comb 1.0 mm, 31 wells-MC, for BM-200 (Gel width 15 cm)

HS 39269097

Multichannel-pipette comb

Number of wells:	31
Thickness of comb (mm):	1.0
Width of well (mm):	3
Depth of well (mm):	10
Sample volume (µl)	9

Cat.No.	Size
BM-200-M31-1.0	1 piece

Comb 1.0 mm, 8 wells, for BM-100 (Gel width 7 cm)

HS 39269097

Number of wells:	8
Thickness of comb (mm):	1.0
Width of well (mm):	6.0
Depth of well (mm):	10
Sample volume (µl)	18

Cat.No.	Size
BM-100-8-1.0	1 piece

Comb 1.5 mm, 10 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	10
Thickness of comb (mm):	1.5
Width of well (mm):	12
Depth of well (mm):	10
Sample volume (µl)	52

Cat.No.	Size
BM-200-10-1.5	1 piece

Comb 1.5 mm, 12 wells, für BM-100 (Gel width 7 cm)

HS 39269097

Number of wells:	12
Thickness of comb (mm):	1.5
Width of well (mm):	3.7
Depth of well (mm):	10
Sample volume (µl)	17

Cat.No.	Size
BM-100-12-1.5	1 piece

Comb 1.5 mm, 14 wells, for BM-100 (Gel width 7 cm)

HS 39269097

Number of wells:	14
Thickness of comb (mm):	1.5
Width of well (mm):	3.0
Depth of well (mm):	10
Sample volume (µl)	14

Cat.No.	Size
BM-100-14-1.5	1 piece

Comb 1.5 mm, 16 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	16
Thickness of comb (mm):	1.5
Width of well (mm):	7
Depth of well (mm):	10
Sample volume (µl)	30

Cat.No.	Size
BM-200-16-1.5	1 piece

Comb 1.5 mm, 20 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	20
Thickness of comb (mm):	1.5
Width of well (mm):	5
Depth of well (mm):	10
Sample volume (µl)	20

Cat.No.	Size
BM-200-20-1.5	1 piece

Comb 1.5 mm, 26 wells-MC, for BM-200 (Gel width 15 cm)

HS 39269097

Multichannel-pipette comb

Number of wells:	26
Thickness of comb (mm):	1.5
Width of well (mm):	4
Depth of well (mm):	10
Sample volume (µl)	18

Cat.No.	Size
BM-200-M26-1.5	1 piece

Comb 1.5 mm, 26 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	26
Thickness of comb (mm):	1.5
Width of well (mm):	4
Depth of well (mm):	10
Sample volume (µl)	18

Cat.No.	Size
BM-200-26-1.5	1 piece

Comb 1.5 mm, 8 wells, for BM-100 (Gel width 7 cm)

HS 39269097

Number of wells:	8
Thickness of comb (mm):	1.5
Width of well (mm):	6.0
Depth of well (mm):	10
Sample volume (µl)	28

Cat.No.	Size
BM-100-8-1.5	1 piece

Comb 2.0 mm, 10 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	10
Thickness of comb (mm):	2.0
Width of well (mm):	12
Depth of well (mm):	10
Sample volume (µl)	70

Cat.No.	Size
BM-200-10-2.0	1 piece

Comb 2.0 mm, 12 wells, für BM-100 (Gel width 7 cm)

HS 39269097

Number of wells:	12
Thickness of comb (mm):	2.0
Width of well (mm):	3.7
Depth of well (mm):	10
Sample volume (µl)	20

Cat.No.	Size
BM-100-12-2.0	1 piece

Comb 2.0 mm, 14 wells, for BM-100 (Gel width 7 cm)

HS 39269097

Number of wells:	14
Thickness of comb (mm):	2.0
Width of well (mm):	3.0
Depth of well (mm):	10
Sample volume (µl)	9

Cat.No.	Size
BM-100-14-2.0	1 piece

Comb 2.0 mm, 16 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	16
Thickness of comb (mm):	2.0
Width of well (mm):	7
Depth of well (mm):	10
Sample volume (µl)	40

Cat.No.	Size
BM-200-16-2.0	1 piece

Comb 2.0 mm, 20 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	20
Thickness of comb (mm):	2.0
Width of well (mm):	5
Depth of well (mm):	10
Sample volume (µl)	25

Cat.No.	Size
BM-200-20-2.0	1 piece

Comb 2.0 mm, 26 wells-MC, for BM-200 (Gel width 15 cm)

HS 39269097

Multichannel-pipette comb

Number of wells:	26
Thickness of comb (mm):	2.0
Width of well (mm):	4
Depth of well (mm):	10
Sample Volume (µl)	24

Cat.No.	Size
BM-200-M26-2.0	1 piece

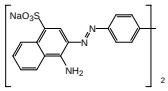
Comb 2.0 mm, 26 wells, for BM-200 (Gel width 15 cm)

HS 39269097

Number of wells:	26
Thickness of comb (mm):	2.0
Width of well (mm):	4
Depth of well (mm):	10
Sample volume (µl)	24

Cat.No.	Size
BM-200-26-2.0	1 piece

Congo Red research grade



(Direct Red 28)
C.I.22120 ♦ $C_{32}H_{22}N_6O_6S_2 \cdot Na_2$ ♦ M_r 696.7 ♦
CAS [573-58-0]

DANGER
H350-H361d ♦ Carc. 1B, Repr. 2 ♦ EG-Index 611-027-00-8 ♦ GGVSE/ADR 6.1 III UN2811 ♦ IATA 6.1 III UN2811 ♦ EINECS 209-358-4 ♦ WGK 2L ♦ HS 32049000

Congo red is a benzidine-based anionic diazo dye, which binds to many amyloid proteins and also interacts with β-D-glucans, polysaccharides containing continuous β-(1→4)-linked D-glucopyranosyl units and some hemicellulosic galactoglucomannans. Tested for use in histology. Indicator pH 3.0 - 5.2 blue-reddish orange.

Cat.No.	Size
27215.01	25 g

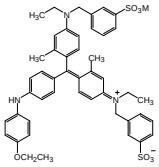
Cooling Contact Fluid

HS 90272000
Storage temperature +2 °C to +8 °C

Cooling fluid specially formulated for use in horizontal electrophoresis. Sufficient for running 10 (50 ml) or 30 (150 ml) large format gels or 25 (50 ml) or 75 (150 ml) small format gels.

Cat.No.	Size
43371.01	50 ml
43371.02	3 x 50 ml

Coomassie® Brilliant Blue G 250



C.I. 42655 ♦ $C_{47}H_{48}N_3O_7S_2 \cdot Na$ ♦ M_r 854.0 ♦
CAS [6104-58-1]

EINECS 228-058-4 ♦ WGK 2L ♦ HS 32041200

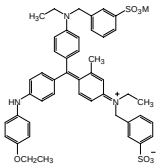
Coomassie® Brilliant Blue G 250 is a triphenylmethane dye used in protein gel electrophoresis for detection of proteins and with the Bradford Method to determine protein concentration. G 250 is differentiated from the R 250 Coomassie stain by the addition of two methyl groups and the slightly greenish tint to its blue color. The dye may exist as a cation (red form) at a pH below 0 with an absorbance peak at 470 nm, an anion (blue form) at a pH above 2 with an absorbance peak at 595 nm, and a neutral, green form at a pH around 1 with an absorbance peak around 650 nm. The blue, anionic form is what binds with amino acid residues, such as arginine or aromatics, to form a stable complex. Corresponds to SERVA Blue G (cat. no. 35050).

λmax. (0.001 %, pH 7)	585 ± 5 nm
A 1 cm/λmax./1 % pH 7	ca. 500
Water	max. 10.0 %
TLC	corresponds

Coomassie = registered trademark of ICI Ltd.

Cat.No.	Size
17524.01	25 g
17524.02	100 g

Coomassie® Brilliant Blue R 250



C.I. 42660 ♦ $C_{45}H_{44}N_3O_7S_2 \cdot Na$ ♦ M_r 826.0 ♦
CAS [6104-59-2]

EINECS 228-060-5 ♦ WGK 2L ♦ HS 32041200

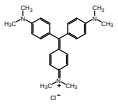
Coomassie® Brilliant Blue R 250 is a sensitive triphenylmethane dye for protein detection in polyacrylamide gels. It may be combined with other stains, such as silver stain, to distinguish different types of proteins.
Corresponds to SERVA Blue R (cat. no. 35051).

Assay (UV)	min. 75.0 %
Water (KF)	max. 10.0 %
TLC	corresponds

Coomassie = registered trademark of ICI Ltd.

Cat.No.	Size
17525.01	25 g
17525.02	100 g

Crystal Violet research grade



(Basic Violet 3; Hexamethylpararosaniline·HCl; Gentian Violet 10B; Methyl Violet 10B)
C.I.42555 ♦ $C_{25}H_{30}ClN_3$ ♦ M_r 408.0 ♦ CAS [548-62-9]

DANGER
H302-H318-H351-H410 ♦ Carc. 2 ♦ EG-Index 612-204-00-2 ♦ GGVSE/ADR 9 III UN3077 ♦ IATA 9 III UN3077 ♦ EINECS 208-953-6 ♦ WGK 3 ♦ HS 32049000

Crystal Violet is used for differentiation of Gram-negative versus Gram-positive bacteria, to check cell viability, staining of cells to study cell migration and invasion and of plant chromosomes.
This dye is chemically homogeneous and well-defined, particularly recommended for Flemming and gram-staining because of reproducible results. Commercial preparations usually contain components of reddish tinge like methyl violet 2B. Indicator pH 0.0 - 1.8.

λ max.	580 - 600 nm
A 1 cm/λ max. (0.0001 % in water)	min. 0.13

Cat.No.	Size
27335.01	25 g

CSF Analysis Kit for PhastSystem™

HS 38220000
Storage temperature -15 °C to -25 °C

Format 50 x 42 x 0.43 mm.
Contains 10 rehydratable, film supported mini horizontal polyacrylamide gels for CSF analysis on PhastSystem™.

Cat.No.	Size
43393.01	1 kit

CTAB

see 16530 Cetyltrimethylammonium·bromide, page 24

CTAB DNA Extraction Buffer molecular biology grade

HS 38220000

Cetyltrimethylammonium-bromide (CTAB) is a non-ionic detergent, which forms insoluble complexes with nucleic acids if the sodium chloride concentration in the solution is around 0.5 M. Polysaccharides, phenolic components and other enzyme-inhibiting impurities from lysates of plant cells can be effectively removed with the CTAB lysis buffer (1).
Contains 2 % CTAB, 20 mM EDTA·Na_2·$2H_2O$, 1.4 mM NaCl and 100 mM Tris, pH 8.

References:

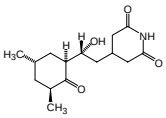
1. Ed. Ausubel et al., (2001) Current Protocols in Molecular Biology, Greene Publishing & Wiley-Interscience Inc. (New York, NY), Suppl. ***45***, 2.3.5

Cat.No.	Size
39809.01	500 ml

Cyanocobalamin

see 38310 Vitamin B_{12}, page 143

Cycloheximide cryst. pure



(Actidione®; β-[2-(3,5-Dimethyl-2-oxocyclohexyl)-2-hydroxyethyl]-glutarimide))
$C_{15}H_{23}NO_4$ ♦ M_r 281.4 ♦ CAS [66-81-9]

DANGER
H300-H341-H360D-H411 ♦ Muta. 2, Repr. 1B ♦ EG-Index 613-140-00-8 ♦ GGVSE/ADR 6.1 I UN2811 ♦ IATA 6.1 I UN2811 ♦ EINECS 200-636-0 ♦ WGK 3L ♦ HS 29419000
Storage temperature +2 °C to +8 °C

Glutarimide antibiotic isolated from *Streptomyces griseus*; active against fungi and yeasts, but not against bacteria. Inhibits eukaryotic protein synthesis by blocking the translocation step in the elongation cycle (1,3,8). Blocks translation of mRNA on cytosolic but not on mitochondrial or chloroplast ribosomes (2,4,6).

Assay (HPLC)	min. 90.0 %
MP	98 - 112 °C

Actidione = registered trademark of Upjohn.

References:

1. McKeehan, W. & Hardesty, B. (1969) Biochem. Biophys. Res. Commun. ***36,*** 625-30
2. Neupert, W. et al. (1969) Eur. J. Biochem. ***10***, 589-91
3. Obrig, T.G. et al. (1971) J. Biol. Chem. ***246***, 174-81
4. Avadhani, N.G. & Buetow, D.E. (1972) Biochem. J. ***128***, 353-65
5. Jilek, F. et al. (2000) Animal Reprod. Sci. ***63***, 101-11
6. Hanten, J.J. & Pierce, S.K. (2001) Biol. Bull. ***201***, 34-44
7. Jin, S. et al. (2008) Am. J. Physiol. ***294***, G928-37
8. Schneider-Poetsch, T. et al. (2010) Nat. Chem. Biol. ***6***, 209-17

Cat.No.	Size
10700.04	1 g
10700.02	5 g
10700.03	25 g

L-Cysteine·HCl·H_2O cryst. research grade, Ph. Eur., USP

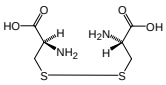
(Cys-HCl; L-2-Amino-d-mercaptopropionic acid hydrochloride)
$C_3H_7NO_2S$·HCl·H_2O ♦ M_r 175.6 ♦ CAS [7048-04-6]

WARNING
H315-H319-H335 ♦ EINECS 200-157-7 ♦ WGK 1L ♦ HS 29309016

Assay (titr.)	98.5 - 101.0 %

Cat.No.	Size
17769.01	25 g
17769.02	100 g
17769.03	250 g
17769.04	1 kg

L-Cystine research grade, Ph. Eur.



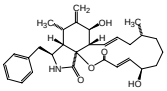
((Cys)$_2$; L(-)-3,3'-Dithiobis(2-aminopropanoic acid))
$C_6H_{12}N_2O_4S_2$ ♦ M_r 240.3 ♦ CAS [56-89-3]

EINECS 200-296-3 ♦ WGK - ♦ HS 29309013

Assay (titr.)	98.5 - 101.0 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
17880.02	250 g

Cytochalasin B



$C_{29}H_{37}NO_5$ ♦ M_r 479.6 ♦ CAS [14930-96-2]

DANGER
H300-H310-H330-H361d ♦ GGVSE/ADR 6.1 II UN2811 ♦ IATA 6.1 II UN2811 ♦ EINECS 239-000-2 ♦ WGK 2 ♦ HS 29339980
Storage temperature +2 °C to +8 °C

From *Drechslera dematoidea*. Reversible inhibitor of cell motion (1). Inhibits phagocytosis (2). Induces polyploidy (3). Induces nuclear extrusion (4, 5).

Assay (HPLC)	> 98.0 %
Assay (TLC)	> 98.0 %

References:

1. Becker, E. et al. (1972) J. Immunol. ***108,*** 396-401
2. Davis, A. et al. (1971) Proc. Soc. Exp. Biol. Med. ***137,*** 161- 7
3. Hoehn, H. et al. (1972) Fed. Proc. ***31,*** A 607-8
4. Krishan, A. (1972) J. Cell Biol. ***54,*** 657- 62
5. Prescott, D. (1972) Exp. Cell Res. ***71,*** 480-3

Cat.No.	Size
18015.01	1 mg
18015.02	5 mg

D.E.R.® 736 pract.

(ERL-4206 plasticizer)
CAS [9072-62-2]

WARNING
H319 ♦ WGK 1L ♦ HS 39073000

Shorter chain than D.E.R.® 732, lower viscosity, gives less flexible blocks. Epoxy equivalent weight 175 - 205; viscosity 0.03 - 0.06 Pa·s at 25 °C.
Used in electron microscopy.

Density	1.129 - 1.150

D.E.R. is a registered trademark of Dow Chemical Company, USA.

References:
1. Kushida, H. (1966) J. Electron. Microsc. ***16,*** 278-80

Cat.No.	Size
18247.01	100 ml

DAB

see 18865 3,3'-Diaminobenzidine·4HCl·xH_2O, page 32

Dactinomycin

see 10710 Actinomycin D, page 4

DAPI

see 18860 4',6-Diamidino-2-phenylindole·2HCl, page 32

DDSA

see 20755 2-Dodecenylsuccinic acid anhydride, page 35

Demecolcine solution

see 47253 Colcemid™ solution 10 µg/ml, page 26

Denhardt's solution, 50x concentrate molecular biology grade

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

DNase/RNase not detected.
Suitable for nucleic acid hybridization. Denhardt's solution is a mixture of blocking agents capable of saturating non-specific binding sites and to be used in membrane-based hybridization protocols. It is recommended for use with nylon membranes.

Composition:

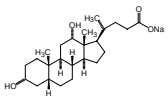
Albumin Fraction V	0.1 g/10 ml
Polyvinylpyrrolidone	0.1 g/10 ml
Ficoll® 400	0.1 g/10 ml

References:
1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (9.48-50, B.15)
2. Denhardt, D.T., (1966) Biochem. Biophys. Res. Commun. ***23***(5), 641-646

Cat.No.	Size
39603.01	10 ml

Deoxycholic acid·Na-salt pure

(Sodium deoxycholate)
$C_{24}H_{39}O_4$·Na ♦ M_r 414.6 ♦ CAS [302-95-4]



WARNING
H302 ♦ EINECS 206-132-7 ♦ WGK 1 ♦ HS 29181930

For bacteriology and enzymology. Suitable for solubilization of many membrane proteins and phospholipids.

Assay	min. 98.0 %
Loss on drying	max. 5.0 %
Heavy metals (Pb)	max. 20 ppm

References:
1. McKernan, R.M. et al. (1989) J. Neurochem. ***52,*** 777-85
2. Bayerl, T.M. et al. (1989) Biochim. Biophys. Acta ***984,*** 214-24

Cat.No.	Size
18330.02	25 g
18330.03	100 g

Deoxyribonuclease I from Bovine Pancreas min. 3000 Kunitz units/mg lyophil.

(DNase I; Deoxyribonucleodepolymerase; Deoxyribonucleate 5'-oligonucleotide hydrolase)
EC 3.1.21.1 ♦ M_r 31 000 ♦ CAS [9003-98-9]

EINECS 232-667-0 ♦ WGK 1 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

Cleaves preferentially double-stranded DNA (in the presence of Mg^{++}-ions single stranded DNA) in oligonucleotides with 5'-terminal phosphate groups.

Unit definition: 1 Kunitz unit catalyzes an increase in absorption of 0.001 at 260 nm per minute at 25 °C, pH 5.0 when acting on highly polymerized calf thymus DNA (1).

Activity: min. 3000 Kunitz units/mg lyophilisate

References:
1. Kunitz, M. (1950) J. Gen. Physiol. ***33***, 349-62
2. Laskowski, M. Sr. (1971) The Enzymes ***IV***, 3rd Ed. (Boyer, P.D.ed.) Acad. Press N.Y. 289-311
3. Moore, S. (1981) The Enzymes ***XIV***, 3rd Ed. (Boyer, P.D. ed.) Acad. Press N.Y. 281-96
4. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (5.83, 10.6-10.12, 15.14, 15.16, 15.27-15.31, 13.24-13.25, 13.28-13.29)

Cat.No.	Size
18535.01	25 mg
18535.02	100 mg

DEPC

see 18835 Diethyl pyrocarbonate, page 34

DePeX

WARNING
H226-H315 ♦ GGVSE/ADR 3 III UN1307 ♦ IATA 3 III UN1307 ♦ WGK 2 ♦ HS 38220000

Mounting medium for histology. Refractive index 1.52 - 1.53. Neutral solution of polystyrene and plasticizers in xylene.

Cat.No.	Size
18243.01	100 ml
18243.02	500 ml

Detergent 7 X® neutral, phosphate-free

WGK 1 ♦ HS 34022090

For tissue culture and molecular biology. Highly active cleaning material, guaranteed to be non-toxic for even the most sensitive organisms.

7 X = registered trademark of ICN Pharmaceuticals Inc.

Cat.No.	Size
34205.01	1 L
34205.02	10 L
34205.03	10 x 10 L

Dextran FP 40 research grade, Ph. Eur.

CAS [9004-54-0]

EINECS 232-677-5 ♦ WGK 2L ♦ HS 39139000

Molecular weight	35 000 - 45 000
Loss on drying	max. 7.0 %
Sulfated ash	max. 0.3 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
18665.02	500 g

Dextran 4 technical grade

CAS [9004-54-0]

EINECS 232-677-5 ♦ WGK 2L ♦ HS 39139000

Molecular weight 3500 - 7500

Cat.No.	Size
18687.02	500 g

Dextran 8 technical grade

CAS [9004-54-0]

EINECS 232-677-5 ♦ WGK 2L ♦ HS 39139000

Molecular weight 8 000 - 12 000

Cat.No.	Size
18689.02	500 g

Dextran 100 technical grade

CAS [9004-54-0]

EINECS 232-677-5 ♦ WGK 2L ♦ HS 39139000

Molecular weight 90 000 - 110 000

Cat.No.	Size
18693.02	500 g

Dextran 500 technical grade

CAS [9004-54-0]

EINECS 232-677-5 ♦ WGK 2L ♦ HS 39139000

Molecular weight ca. 500 000

Cat.No.	Size
18696.01	100 g

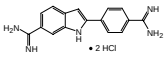
Dextrose

see 22700 α-D-Glucose, page 46

4',6-Diamidino-2-phenylindole·2HCl analytical grade

(DAPI)

$C_{16}H_{15}N_5 \cdot 2HCl$ ♦ M_r 350.25 ♦ CAS [28718-90-3]



EINECS 249-186-7 ♦ WGK 1 ♦ HS 29339980

Storage temperature +2 °C to +8 °C

Fluorescent dye binding selectively to DNA. For demonstration of mycoplasmas and viruses in cells (1). For fluorescent chromosome staining (2). Dye for brain stem (3).

Purity min. 98.0 %

References:

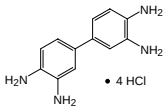
1. Russel, W.C. et al. (1975) Nature ***253,*** 461-2
2. Schweizer, D. (1976) Chromosoma (B.) ***58,*** 307-24
3. van der Kooy, D. & Kuypers, H.G.J.M. (1979) Science ***204,*** 873-5

Cat.No.	Size
18860.01	10 mg

3,3'-Diaminobenzidine·4HCl·xH_2O research grade

(DAB)

$C_{12}H_{14}N_4 \cdot 4HCl \cdot xH_2O$ ♦ M_r 360.1 (anhydr.) ♦ CAS [868272-85-9]



DANGER

H341-H350 ♦ Carc. 2 ♦ EINECS 231-018-9 ♦ WGK 3 ♦ HS 29215990

Storage temperature +2 °C to +8 °C

3,3'-Diaminobenzidine tetrahydrochloride (DAB) is a substrate for peroxidases, especially for horseradish peroxidase (HRP).
DAB is used for histology and ultrahistochemistry (1) and demonstration of ultrastructural peroxidase (2).
It serves as a hydrogen donor in the presence of peroxide in the peroxidase reaction. The oxidized DAB forms an insoluble brown end-product, which can be detected in visible light and does not bleach during long-term storage.
Stock solution: 10 - 20 mg/ml in 50 mM Tris buffer, pH 7.3 (store in aliquots at -20 °C), working solution: 0.5 - 1 mg/ml in buffer (PBS, TBS, pH 7.0 - 7.6) containing 0.01 % hydrogen peroxide.
Vials under argon.

Assay (HPLC) min. 96.0 %

References:

1. Hanker, J.S. et al. (1972) Histochemie ***30,*** 201-14
2. Graham, R.C. & Karnovsky, M.J. (1966) J. Histochem. Cytochem. ***14,*** 291- 302

Cat.No.	Size
18865.02	1 g

Diazoresorcinol

see 34226 Resazurin·Na-salt, page 97

Diethyl pyrocarbonate research grade

(DEPC; Ethoxy formic anhydride; Pyrocarbonic acid diethyl ester)

$C_6H_{10}O_5$ ♦ M_r 162.14 ♦ CAS [1609-47-8]

WARNING

H302-H315-H319-H332-H335 ♦ EINECS 216-542-8 ♦ WGK 1 ♦ HS 29209085

Storage temperature +2 °C to +8 °C

Crosslinks proteins, reacts with histidine residues (1). RNase inhibitor (2). Sterilization of instruments: 20-minute treatment with a dilution of 1 ml/l (3). Removal of RNases from solutions (except those containing amines like Tris): Add DEPC to final conc. of 0.1 %, stir overnight and autoclave.

Assay (GC) min. 96.0 %

References:

1. Tsurushiin, S. et al. (1975) Biochim. Biophys. Acta ***410,*** 451-60
2. Berger, S.L. (1975) Anal. Biochem. ***67,*** 428-37
3. Pauli, O. & Genth, H. (1966) Z. Lebensm.-Unters.-Forsch. ***132***, 216-27

Cat.No.	Size
18835.01	10 ml

Digital Imaging and Analysis System III, basic

HS 90275000

The SERVA Digital Imaging and Analysis System III basic is the ideal solution to master the daily tasks of documentation.

Components:
- Darkroom cabinet (ca. 42 x 55 x 52 cm)
- UV filter
- Digital SLR camera

Cat.No.	Size
DIAS-III-B	1 piece

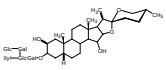
Digitin

see 19551 Digitonin water soluble, page 32

Digitonin analytical grade, USP

(Digitin)

$C_{56}H_{92}O_{29}$ ♦ M_r 1229.34 ♦ CAS [11024-24-1]



DANGER

H301-H311-H331 ♦ GGVSE/ADR 6.1 II UN2811 ♦ IATA 6.1 II UN2811 ♦ EINECS 234-255-6 ♦ WGK 3L ♦ HS 29389010

Naturally occurring surfactant especially useful for receptor solubilization. Frequently applied as hemolysis reagent and for permeabilization of certain types of cells e.g. blood platelets, hepatocytes, yeast or tumor cells. Also used for the estimation of cholesterol.

References:

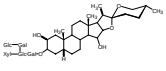
1. Scallen, D.J. & Dietert, S.E. (1969) J. Cell Biol. ***40,*** 802- 13
2. Grigoriadis, D.E. et al. (1989) Endocrinology ***125,*** 3068-77
3. Hermann, P. et al. (1988) Photosynthetica ***22,*** 411-22
4. Boschmann, M. et al. (1989) Biomed. Biochim. Acta ***48,*** 645-52
5. Mooney, R.A. (1988) in Meth. Enzymol. ***159,*** (Corbin, J.D. & Johnson, R.A., Eds.) 193-202, Academic Press, Inc.

Cat.No.	Size
19550.02	1 g

Digitonin water soluble research grade

(Digitin)

$C_{56}H_{92}O_{29}$ ♦ M_r 1229.34 ♦ CAS [11024-24-1]



DANGER

H301-H311-H331 ♦ GGVSE/ADR 6.1 II UN2811 ♦ IATA 6.1 II UN2811 ♦ EINECS 234-255-6 ♦ WGK 3L ♦ HS 29389010

Turbidity: 1 g is suspended in 20 ml water and dissolved by heating to 95 - 98 °C for 15 minutes.

Cat.No.	Size
19551.01	250 mg
19551.02	1 g

2,2-Dihydroxy-1,3-indanedione

see 30410 Ninhydrin, page 78

4,6-Dihydroxy-2-thiopyrimidine

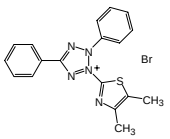
see 36108 2-Thiobarbituric acid, page 135

threo-1,4-Dimercapto-2,3-butanediol

see 20710 Dithiothreitol, page 34

3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium·bromide research grade

(MTT; Thiazolyl blue)
$C_{18}H_{16}BrN_5S$ ♦ M_r 414.33 ♦ CAS [298-93-1]



EINECS 206-069-5 ♦ WGK 2L ♦ HS 29341000

Detection of dehydrogenases in combination with phenazine methosulfate (1). Terminal electron acceptor in the cycling assay for pyridine nucleotides (2). For colorimetric assay to measure cell activation (3, 4).

Assay (HPLC) min. 98.0 %

References:

1. Schauenstein, E. & Höfler-Bergthaler, E. (1972) Monatsh. Chem. ***103,*** 1271-5
2. Bernofsky, C. & Swan, M. (1973) Anal. Biochem. ***53,*** 542-8
3. Gerlier, D. & Thomasset, N. (1986) J. Immunol. Methods ***94,*** 57-64
4. Hansen, M.B. et al. (1989) J. Immunol. Methods ***119,*** 203-10

Cat.No.	Size
20395.01	250 mg
20395.02	1 g
20395.03	5 g
20395.04	25 g

Dimethyl sulfoxide molecular biology grade

(DMSO)
C_2H_6OS ♦ M_r 78.1 ♦ CAS [67-68-5]

MAK/TRK 160 mg/m³ ♦ EINECS 200-664-3 ♦ WGK 1 ♦ HS 29309099

Dimethyl sulfoxide (DMSO) is a highly active solvent and pharmaceutical vehicle. In cell culture DMSO is used for freezing cells.
The solvent is as well applied in gradient centrifugation (1) and determination of cysteine and cystine in proteins (2).
DNase/RNase not detected.

Assay	min. 99.0 %
MP	18.0 °C
d20 °C	1.1
Water (KF)	max. 0.3 %

Cat.No.	Size
39757.01	50 ml
39757.02	250 ml

Dimethyl sulfoxide research grade

(DMSO)
C_2H_6OS ♦ M_r 78.1 ♦ CAS [67-68-5]

MAK/TRK 160mg/m³ ♦ EINECS 200-664-3 ♦ WGK 1L ♦ HS 29309099

Dimethyl sulfoxide (DMSO) is a highly active solvent and pharmaceutical vehicle. In cell culture DMSO is used for freezing cells.
The solvent is as well applied in gradient centrifugation (1) and determination of cysteine and cystine in proteins (2).

Assay	min. 99.0 %
MP	min. 18.0 °C
d20 °C	1.1
Water (KF)	max. 0.3 %

References:

1. Kelly, R.B. & Sinsheimer, R.L. (1967) J. Mol. Biol. ***29,*** 229-36
2. Spencer, R.L. & Wold, F. (1969) Anal. Biochem. ***32***, 185-90

Cat.No.	Size
20385.01	250 ml
20385.02	1 L

N, N-Dimethylbenzylamine

see 14835 Benzyl dimethylamine, page 15

Dimethylformamide molecular biology grade

(DMF; DMFA)
C_3H_7NO ♦ M_r 73.10 ♦ CAS [68-12-2]

DANGER
H226-H312-H319-H332-H360D ♦ Repr. 1B ♦ MAK/TRK 10 ml/m³, 30 mg/m³ ♦ EG-Index 616-001-00-X ♦ GGVSE/ADR 3 III UN2265 ♦ IATA 3 III UN2265 ♦ EINECS 200-679-5 ♦ WGK 1L ♦ HS 29241900

DNase/RNase not detected. Suitable as a solvent for chromogenic substrates used in molecular biology applications.

Assay (GC) min. 99.9 %

Cat.No.	Size
39756.01	250 ml

Dimethylformamide research grade

(DMF; DMFA)
C_3H_7NO ♦ M_r 73.1 ♦ CAS [68-12-2]

DANGER
H226-H312-H319-H332-H360D ♦ Repr. 1B ♦ MAK/TRK 10 ml/m³, 30 mg/m³ ♦ EG-Index 616-001-00-X ♦ GGVSE/ADR 3 III UN2265 ♦ IATA 3 III UN2265 ♦ EINECS 200-679-5 ♦ WGK 1L ♦ HS 29241900

Polar organic solvent with a low evaporation rate, useful for preparing solutions with a variety of hydrophobic organic compounds used in biochemical and molecular biology applications.

Assay (GC)	min. 99.9 %
BP	152 - 154 °C

Cat.No.	Size
20270.03	250 ml

1,9-Dimethylmethylene blue-chloride pure

(3,7-Bis(dimethylamino)-1,9-dimethyldiphenothiazin-5-ium chloride)
$C_{18}H_{22}ClN_3S·0.5\ ZnCl_2$ ♦ M_r 416.05 ♦ CAS [931418-92-7]

WARNING
H319 ♦ WGK 2L ♦ HS 32041300

Histological stain with strong metachromic properties (1, 2). Particularly suitable for the quantitation and discrimination of sulfated glycosamino glycans (proteoglycans) (3, 4).

References:

1. Taylor, K.B. & Jefree, G.B. (1969) Histochem. J. ***1***, 199-204
2. Toepfer, K. (1970) Histochemie ***21***, 64-72
3. Farndale, R.W. et al. (1982) Connect. Tissue Res. ***9***, 247-8
4. Klompmakers, A.A. & Hendriks, T. (1986) Anal. Biochem. ***153***, 80-4

Cat.No.	Size
20335.01	1 g

Direct Red 28

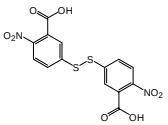
see 27215 Congo Red, page 29

L(-)-3,3'-Dithiobis(2-aminopropanoic acid)

see 17880 L-Cystine, page 30

5,5'-Dithiobis(2-nitrobenzoic acid) research grade

(DTNB; Ellman's reagent)
$C_{14}H_8N_2O_8S_2$ ♦ M_r 396.36 ♦ CAS [69-78-3]



WARNING
H315-H319-H335 ♦ EINECS 200-714-4 ♦ WGK 1 ♦ HS 29309099

Water soluble reagent, as well called DTNB or Ellman´s reagent, for qualitative and quantitative determination of sulfhydryl groups in proteins, peptides, and tissues.

Assay (titr.)	99.0 - 101.0 %
Molar extinction coefficient (l mol^{-1} cm^{-1})	13 600 - 14 250

References:

1. Ellman, G.L. (1959) Arch. Biochem. Biophys. ***82,*** 70-7

Cat.No.	Size
20735.02	5 g

Dithioerythritol analytical grade

(DTE; Cleland's reagent; erythro-1,4-Dimercapto-2,3-butanediol)
$C_4H_{10}O_2S_2$ ♦ M_r 154.24 ♦ CAS [6892-68-8]

WARNING
H315-H319-H335 ♦ EINECS 229-998-8 ♦ WGK 3L ♦ HS 29309099

Storage temperature +2 °C to +8 °C

Dithioerythritol (DTE) is an epimer of Dithiothreitol (DTT) and a reagent for maintaining thiol (SH) groups in the reduced state.
It quantitatively reduces disulfide groups, forming a cyclic disulfide (1, 2, 3).
Not hygroscopic.

Assay (titr.)	min. 99.0 %
MP	82 - 86 °C

References:
1. Cleland, W.W. (1964) Biochemistry ***3,*** 480-2
2. Zahler, W.L. & Cleland, W.W. (1968) J. Biol. Chem. ***243,*** 716-9
3. Burstein, Y. & Patchornik, A. (1972) Biochemistry ***11,*** 2939-44

Cat.No.	Size
20697.03	5 g

Dithiothreitol electrophoresis grade

(DTT; Cleland's reagent; threo-1,4-Dimercapto-2,3-butanediol)
$C_4H_{10}O_2S_2$ ♦ M_r 154.25 ♦ CAS [3483-12-3]

WARNING
H302-H315-H319-H335 ♦ EINECS 222-468-7 ♦ HS 29309099

Storage temperature +2 °C to +8 °C

DTT is effective in sample buffers for reducing protein disulfide bonds prior to SDS-PAGE (1). Tested for use in reduced SDS-PAGE. Oxidized DTT max. 0.5 %. Hygroscopic.

Assay (titr.)	min. 99.0 %
MP	40 - 99 °C

References:
1. Cleland, W.W. (1964) Biochemistry ***3***, 480-2

Cat.No.	Size
20711.02	5 g

Dithiothreitol analytical grade

(DTT; Cleland's reagent; threo-1,4-Dimercapto-2,3-butanediol)
$C_4H_{10}O_2S_2$ ♦ M_r 154.25 ♦ CAS [3483-12-3]

WARNING
H302-H315-H319-H335 ♦ EINECS 222-468-7 ♦ WGK 3L ♦ HS 29309099

Storage temperature +2 °C to +8 °C

For quantitative reduction of disulfide groups (1). Oxidized DTT max. 0.5 %. Hygroscopic.

Assay (titr.)	min. 99.0 %
MP	40 - 45 °C

References:
1. Cleland, W.W. (1964) Biochemistry ***3,*** 480-2

Cat.No.	Size
20710.02	1 g
20710.03	5 g
20710.04	25 g

Dithiothreitol molecular biology grade

(DTT; Cleland's reagent; threo-1,4-Dimercapto-2,3-butanediol)
$C_4H_{10}O_2S_2$ ♦ M_r 154.25 ♦ CAS [3483-12-3]

WARNING
H302-H315-H319-H335 ♦ EINECS 222-468-7 ♦ WGK 1 ♦ HS 29309099

Storage temperature +2 °C to +8 °C

Dithiothreitol, as well called DTT or Cleland's reagent, is a widely used reagent for maintaining thiol (SH) groups in reduced state. DTT quantitatively reduces disulfide groups (1) and is effective in sample buffers for reducing protein disulfide bonds prior to SDS gel electrophoresis (SDS-PAGE).
It is not only less pungent and less toxic than 2-mercaptoethanol, but as well a seven fold lower concentration of DTT (100 mM) than of 2-mercaptoethanol (5 % v/v, 700 mM) is needed.
DNase/RNase not detected. Oxidized DTT max. 0.5 %. Hygroscopic.

Assay (titr.)	min. 99.0 %
MP	40 - 45 °C

References:
1. Cleland, W.W. (1964) Biochemistry ***3,*** 480-2

Cat.No.	Size
39759.01	1 g
39759.02	5 g
39759.03	25 g

DMF

see 20270 Dimethylformamide, page 33

DMSO

see 20385 Dimethyl sulfoxide, page 33

DNA from fish sperm pure

CAS [100403-24-5]

EINECS 309-566-6 ♦ HS 29349990
Storage temperature +2 °C to +8 °C

Defatted; this material is largely depolymerized; suitable as source for various mono- and oligonucleotides. May be used as blocking reagent after solubilization, shearing and heat denaturation (3).

References:
1. Zamenhoff, S. (1958) Biochem. Prep. ***6,*** 6-12
2. Bonner, J. & Huang, R.C.C. (1963) J. Mol. Biol. ***6,*** 169-74
3. J. Sambrook, E.F. Fritsch, T. Maniatis (1989) Molecular Cloning - A Laboratory Manual, B15

Cat.No.	Size
18580.01	25 g

DNA Molecular Weight Markers

see 39311 SERVA DNA Standard 1 Kbp DNA Ladder lyophilized, page 102

DNADecon

HS 38220000

Highly effective decontamination solution for removal of DNA and RNA contamination on surfaces, instruments and laboratory equipment.
DNADecon is ideal for use in decontamination of PCR work places, because it completely destroys and removes DNA molecules from any surface. It can as well be used for decontamination of electrophoresis chambers, pipettes, reaction tubes etc.
DNADecon is ready-to-use, non-alkaline and non-carcinogenic.
Supplied in a spray bottle (250 ml) or as refill (500 ml).

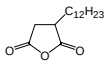
Cat.No.	Size
39810.01	250 ml
39810.02	500 ml

DNase I

see 18535 Deoxyribonuclease I from Bovine Pancreas min. 3000 Kunitz units/mg, page 31

2-Dodecenylsuccinic acid anhydride pract.

(DDSA; 2-Dodecenylsuccinic anhydride;
EPON hardener DDSA)



$C_{16}H_{26}O_3$ ♦ M_r 266.38 ♦ CAS [25377-73-5]

WARNING
H315-H319-H335 ♦ EINECS 246-917-1 ♦ WGK 2 ♦ HS 29171980

2-Dodecenylsuccinic acid anhydride (DDSA) is used as hardener for epoxy resins like Glycid ether 100 (Epon 812), one of the most widely used embedding media in electron microscopy.
Glycid ether cured with DDSA alone will result in rather soft blocks. The combination of DDSA with the hardener methylnadic anhydride (MNA) in varying proportions enables the production of blocks of desired hardness.

Cat.No.	Size
20755.01	100 g
20755.02	1 kg

Dodecylsulfate-Na-salt electrophoresis grade

(SDS; Sodium laurylsulfate; Sodium dodecyl sulfate)
$C_{12}H_{25}O_4S{\cdot}Na$ ♦ M_r 288.38 ♦ CAS [151-21-3]

DANGER
H228-H302-H311-H315-H319-H335 ♦ GGVSE/
ADR 4.1 III UN2926 ♦ IATA 4.1 III UN2926 ♦
EINECS 205-788-1 ♦ HS 34029090

CMC (25 °C) 8.1 mM, Na (25 °C) 60 - 62, HLB 40
Anionic detergent
Ultrapure SDS, application proofed quality for all electrophoresis and blotting techniques.

Assay (GC)	min. 99.0 %
A 1cm/10 % in water	
260 nm	max. 0.15
280 nm	max. 0.05

Cat.No.	Size
20771.01	100 g
20771.02	500 g

Dodecylsulfate·Na-salt cryst. research grade

(SDS; Sodium laurylsulfate; Sodium dodecyl sulfate)
$C_{12}H_{25}O_4S{\cdot}Na$ ♦ M_r 288.38 ♦ CAS [151-21-3]

DANGER
H228-H302-H311-H315-H319-H335 ♦ GGVSE/
ADR 4.1 III UN2926 ♦ IATA 4.1 III UN2926 ♦
EINECS 205-788-1 ♦ WGK 2L ♦ HS 34029090

CMC (25 °C) 8.1 mM, Na (25 °C) 60 - 62, HLB 40
Anionic detergent
Useful for protein solubilization, plasmid extraction from bacteria, and to reduce non-specific binding sites on membranes during nucleic acid hybridization.

Assay (GC)	min. 99.5 %
C_{10}- and C_{14}-sulfate (GC)	max.1.0 %
A 1 cm/10 % in water	
260 nm	max. 1.5
280 nm	max. 1.0

Cat.No.	Size
20760.01	100 g
20760.03	250 g
20760.02	1 kg

Dodecylsulfate·Na-salt for biochemistry

(SDS; Sodium laurylsulfate; Sodium dodecyl sulfate)
$C_{12}H_{25}O_4S{\cdot}Na$ ♦ M_r 288.38 ♦ CAS [151-21-3]

DANGER
H228-H302-H311-H315-H319-H335 ♦ GGVSE/
ADR 4.1 III UN2926 ♦ IATA 4.1 III UN2926 ♦
EINECS 205-788-1 ♦ WGK 2L ♦ HS 34029090

CMC (25 °C) 8.1 mM, Na (25 °C) 60 - 62, HLB 40
Anionic detergent for surfactant studies.

Assay (GC)	min. 99.0 %

Cat.No.	Size
20783.01	250 g
20783.02	1 kg

Dodecylsulfate·Na-salt 2 x cryst., analytical grade

(SDS; Sodium laurylsulfate; Sodium dodecyl sulfate)
$C_{12}H_{25}O_4S{\cdot}Na$ ♦ M_r 288.38 ♦ CAS [151-21-3]

DANGER
H228-H302-H311-H315-H319-H335 ♦ GGVSE/
ADR 4.1 III UN2926 ♦ IATA 4.1 III UN2926 ♦
EINECS 205-788-1 ♦ WGK 2L ♦ HS 34029090

CMC (25 °C) 8.1 mM, Na (25 °C) 60 - 62, HLB 40
Anionic detergent
Ultrapure. Useful for protein solubilization, plasmid extraction from bacteria, reduction of non-specific binding sites on membranes during nucleic acid hybridization and electrophoresis.

Cat.No.	Size
20763.01	100 g
20763.02	500 g

Dodecylsulfate·Na-salt in Pellets research grade

(SDS; Sodium laurylsulfate; Sodium dodecyl sulfate; SDS pellets)
$C_{12}H_{25}O_4S{\cdot}Na$ ♦ M_r 288.38 ♦ CAS [151-21-3]

WARNING
H228-H302-H312-H315-H319-H335 ♦ GGVSE/
ADR 4.1 III UN1325 ♦ IATA 4.1 III UN1325 ♦
EINECS 205-788-1 ♦ WGK 2L ♦ HS 34029090

CMC (25 °C) 8.1 mM, Na (25 °C) 60 - 62, HLB 40
Anionic detergent
Ultrapure SDS pressed in small pellets thus avoiding the irritant dust of the powder form. Suitable for electrophoresis, molecular biology and biochemistry.

Assay (titr.)	min 99.5 %
C_{10} and C_{14}- sulfate (GC)	max. 1.0 %
A 1 cm/10 % in water	
260 nm	max. 1.5
280 nm	max. 1.0

Cat.No.	Size
20765.01	100 g
20765.02	250 g
20765.03	1 kg

DOWEX® 1X2 (200-400 mesh) pract.

HS 39140000

Anion exchanger of type I, strongly basic.

Cross Linkage	2 % DVB
Capacity	min. 0.6 eq/l
Loss on Drying	70 - 80 %

Cat.No.	Size
41030.02	500 g

DOWEX® 1X2 (200-400 mesh) analytical grade

HS 39140000

Anion exchanger of type I, strongly basic.

Cross Linkage	2 % DVB
Capacity	min. 0.6 eq/l
Loss on Drying	70 - 80 %

Cat.No.	Size
41031.01	100 g

DOWEX® 1X8 (20-50 mesh) pract.

HS 39140000

Anion exchanger of type I, strongly basic.

Cross Linkage	8 % DVB
Capacity	min. 1.3 eq/l
Loss on Drying	50 - 60 %

Cat.No.	Size
41080.04	500 g

DOWEX® 1X8 (20-50 mesh) analytical grade

HS 39140000

Anion exchanger of type I, strongly basic.

Cross Linkage	8 % DVB
Capacity	1.0 - 1.5 eq/l
Loss on Drying	50 - 60 %

Cat.No.	Size
41081.04	500 g

DOWEX® 1X8 (100-200 mesh) pract.

HS 39140000

Anion exchanger of type I, strongly basic.

Cross Linkage	8 % DVB
Capacity	min. 1.2 eq/l
Loss on Drying	39 - 45 %

Cat.No.	Size
41100.02	500 g

DOWEX® 1X8 (100-200 mesh) analytical grade

HS 39140000

Anion exchanger of type I, strongly basic.

Cross Linkage	8 % DVB
Capacity	ca. 1.2 eq/l
Loss on Drying	39 - 50 %

Cat.No.	Size
41101.01	100 g
41101.02	500 g

DOWEX® 50 WX2 (100-200 mesh) analytical grade

HS 39140000

Cation exchanger, strongly acidic.

Cross Linkage	2 % DVB
Capacity	min. 0.6 eq/l
Loss on Drying	74 - 82 %

Cat.No.	Size
41521.01	100 g

DOWEX® 50 WX8 (100-200 mesh) analytical grade

HS 39140000

Cation exchanger, strongly acidic.

Cross Linkage	8 % DVB
Capacity	min. 1.7 eq/l
Loss on Drying	45 - 55 %

Cat.No.	Size
41621.01	100 g
41621.02	500 g

DPBS

see 47302 Buffer Substance Dulbecco's, page 22

DPN

see 30311 β-Nicotinamide adenine dinucleotide, page 75

dsDNase heat labile, solution

HS: 35079090

Storage Temperature: -15 °C to -25 °C

M_r 47 600

Unique double-strand specific endonuclease, which can be easily inactivated by heat treatment. As it does not digest ssDNA or RNA, it allows to specifically remove dsDNA in the presence of other nucleic acids. The yielding product is oligonucleotides with 5'-phosphates and 3'-hydroxyl termini.
Recombinantly produced in *Pichia pastoris*, specific activity ca. 200 000 units/mg.

- Complete, irreversible inactivation by heat treatment at 5 min at 58 °C, 1 mM DTT, pH ≥ 8
- Decontamination of PCR master mixes
- Removal of genomic DNA from RNA preparations prior to RT-qPCR

Cat.No.	Size
18545.01	250 U

DTE

see 20697 Dithioerythritol, page 34

DTNB

see 20735 5,5'-Dithiobis(2-nitrobenzoic acid), page 33

DTT

see 20711 Dithiothreitol, page 34

DTT

see 20710 Dithiothreitol, page 34

Dummy Plate

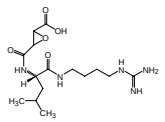
HS 39269097

For leak-free buffer compartment. Replaces second gel when only one gel will be run with BlueVertical™ PRiME™.

Cat.No.	Size
BV-104-7	1 piece

E-64 research grade

(trans-Epoxysuccinyl-L-leucylamido-(4-guanidino) butane; Expoxy[L-3-trans-carboxy oxiran-2-carbonyl]-L-Leu-Agmatin)
$C_{15}H_{27}N_5O_5$ ♦ M_r 357.4 ♦ CAS [66701-25-5]



HS 29241900
Storage temperature -15 °C to -25 °C

E-64 is an irreversible and highly selective cysteine (thiol) protease inhibitor during isolation and purification of proteins and enzymes. It inhibits calpain activation.
The inhibition of thiol proteases by E-64 appears to be of a non-competitive nature between the SH components.The trans-epoxysuccinyl group (active moiety) of E-64 irreversibly binds to an active thiol group in many cysteine proteases, such as papain, actinidase, and cathepsins B, H, and L to form a thioether linkage. E-64 does not inhibit serine proteases (except trypsin) like other cysteine protease inhibitors. It does not react with the functional thiol group of non-protease enzymes.
E-64 can be used as a ligand for affinity purification of cysteine proteases. Although binding of the inhibitor is no longer irreversible, the specificity is retained. Effects on metastasis formation in mice (5).
Stock solution: 1 mM aqueous solution
Working solution: 1 to10 µM
Aqueous stock solutions are stable for months at -20 °C. Diluted solutions are stable for days at neutral pH. E-64 is also soluble in DMSO, a 10 mM solution can be prepared in dry DMSO and stored at -20 °C. Dilutions can be made in culture medium or in 0.9 % sodium chloride for injection.

Assay (HPLC) min. 99.0 %

References:
1. Hanada, K. et al. (1978) Agric. Biol. Chem. ***42,*** 523, 529
2. Varughese, K.J. et al. (1989) Biochemistry ***28,*** 1330-2
3. Nakao, H. et al. (1989) Int. J. Biochem. ***21,*** 139-42
4. Jani, J.P. et al. (1992) Oncol. Res. ***4,*** 59-63
5. Leto, G. et al. (1994) In Vivo ***8,*** 231-6

Cat.No.	Size
21100.01	5 mg
21100.02	25 mg

EDTA

see 11278 Ethylenediamine tetraacetic acid, page 39

EDTA-disodium

see 11280 Ethylenediamine tetraacetic acid·Na_2-salt, page 39

EGTA

see 11290 Ethylene glycol bis(2-aminoethylether)-N,N,N‘,N‘-tetra acetic acid, page 39

Egtazic acid

see 11290 Ethylene glycol bis(2-aminoethylether)-N,N,N‘,N‘-tetra acetic acid, page 39

Elastase from porcine pancreas min. 200 U/mg

lyophil. salt-free

(Pancreatopeptidase E)
EC 3.4.21.36 ♦ M_r ca. 25 900 ♦ CAS [39445-21-1]

DANGER
H315-H319-H334-H335 ♦ EINECS 254-453-6 ♦ WGK 1 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

For the degradation of proteins and peptides.
Serine proteinase with broad substrate specificity. It preferentially cleaves peptide bonds at the carbonyl end of amino acid residues with small hydrophobic side chains, such as glycine, valine, leucine, isoleucine, and particularly alanine. This specificity explains its unique ability to digest native elastin, which is found in highest concentrations in the elastic fibers of connective tissues. Therefore elastase in combination with other enzymes like trypsin is frequently used to dissociate tissues which contain extensive intercellular fiber networks.
Elastase is also able to digest other proteins such as fibrin, hemoglobin, and casein, but not native collagen and keratin. In the presence of Tris, sodium sulfate or SDS enzyme activity is greatly stimulated.

Unit definition: One unit will hydrolyze one micromole of methoxy succinyl-alanine-alanine-proline-valine-p-nitroanilide per minute at 37 °C and pH 7.5.

References:

1. Naughton, M. A. & Sanger, F. (1961) Biochem. J. ***78,*** 156-63
2. Gertler, A. & Hofmann, T. (1970) Can. J. Biochem. ***48,*** 384-6

Cat.No.	Size
20930.01	10 mg
20930.02	25 mg

Electrode lid with IPG tray, for HPE™ BlueHorizon™

HS 90272000
Contains HPE™ electrode lid with at right angle arranged electrodes and IPG tray with 12 slots capable to hold 7 cm to 24 cm IPG strips. In combination with BluePower™ 6000 IPG power supply, this set turns your HPE™ BlueHorizon™ System into a 1st dimension IEF device for 2D electrophoresis.

Cat.No.	Size
HPE-ELIPG	1 kit

Electrode Set for BB-SD11

HS 90272000

Replacement electrode set for BlueBlot Semi-Dry Blotter SD 11 (BB-SD11). Will also fit into the base of BlueBlot Semi-Dry Blotter SD 17 (BB-SD17).

Cat.No.	Size
BB-E11	1 piece

Electrode Set for BB-SD17

HS 90272000

Replacement electrode set for BlueBlot Semi-Dry Blotter SD 17 (BB-SD17). Will also fit into the base of BlueBlot Semi-Dry Blotter SD 11 (BB-SD11).

Cat.No.	Size
BB-E17	1 piece

Electrode Wicks standard size

HS 48232000

Filter cardboard, 120 x 6 x 1 mm.

Cat.No.	Size
42988.01	100 pieces

Electrode Wicks long size

HS 48232000

Filter cardboard, 240 x 6 x 1 mm.

Cat.No.	Size
42987.03	100 pieces

Electrode Wicks extra size

HS 48232000

Filter cardboard, 300 x 6 x 1 mm.

Cat.No.	Size
42972.03	100 pieces

Electronic Starter, for SERVA UV-Table CII (UV-CII)

HS 90278017

Cat.No.	Size
UV-CII-ES	1 piece

Ellman‘s reagent

see 20735 5,5‘-Dithiobis(2-nitrobenzoic acid), page 33

Embedding Medium ERL-4221D

(Epoxycyclohexylmethyl-3,4-epoxycyclohexylcarboxylate; Epoxy embedding medium; Spurr Embedding Medium)
$C_{14}H_{20}O_4$ ♦ M_r 252 ♦ CAS [2386-87-0]

WARNING
H317 ♦ EINECS 219-207-4 ♦ WGK 1L ♦ HS 39073000

Epoxycyclohexylmethyl-3,4-epoxycyclohexylcarboxylate (ERL-4221D) is a cycloaliphatic epoxy resin used as an embedding medium for electron microscopy.
ERL-4221D is a less toxic substitute for the classical SPURR embedding medium component ERL 4206. SPURR-Mixture has a low viscosity which facilitates rapid prenetration into tissues. It is often used for highly vacuolated plant cells and tissues with hard lignified cell walls, for brain tissue as well as for tissues with dense structures like minerals and bones.

Epoxy equivalent weight	126 - 135
Viscosity (25 °C)	220 - 250 mPa·s
Density (g/ml)	1.159 - 1.174

Cat.No.	Size
21041.02	250 ml

Endo F3, recombinant lyophilized

(Endo-β-N-acetylglucosaminidase F3, Endoglycosidase)
M_r 36.000

HS 35079090
Storage Temperature: +15 °C to +30 °C

Endo F3, recombinant endo-β-N-acetylglucosaminidase F3 from *Flavobacterium meningosepticum*, cleaves in β(1-4) link in between the two core GlcNAcs of asparagine linked glycans. Endo F3 cleaves this link on core-fucosylated structures. The enzyme can be applied to workflows alone or in conjunction with PNGase F to allow for structural characterization of core-fucosylated glycans in tissues while maintaining spatial localization. Especially designed and tested for mass spectrometry imaging and HPLC/UPLC
Contains a His-tag for easy removal by affinity chromatography

Because the enzyme is lyophilized, there is no need for refrigerated transport and storage is at room temperature. Concentration after reconstitution: 8 u/µl in 100 µl H_2O dest.

Unit definition: Human IgG (10 µg) is incubated with 1 µL of Endo F3 for 60 minutes at 37 °C and then analyzed by SDS-PAGE. Fully glycosylated IgG heavy chain migrates at approximately 50 kDa. Loss of glycan results in a 2.5 kDa shift that can be observed following staining with Coomassie Brilliant Blue™.

Cat.No.	Size
36407.01	100 µg

Endo S, recombinant lyophilized

(Endo-β-N-acetylglucosaminidase S, Endoglycosidase)
M_r 108.000

HS 35079090
Storage Temperature: +15 °C to +30 °C

Endo S, a recombinant endo-β-N-acetylglucosaminidase S from *Streptococcus pyogenes*, plays a central role in glycoengineering strategies for the development of IgG antibodies with improved therapeutic efficacy. This enzyme will leave any human IgG with a single N-Acetylglucosamine, with or without an attached fucose molecule.
Especially designed and tested for mass spectrometry imaging and HPLC/UPLC. Outstanding performance — produces in HPLC clean peaks with very high yields. Contains a His-tag for easy removal by affinity chromatography.

The endoglycosidase Endo S has a unique accuracy for cleaving the N-linked glycans from the chitobiose core of the heavy chain of native IgG molecules. The enzyme hydrolyzes the β(1-4) linkage between the two core GlcNAcs of asparagine linked biantennary complex-type glycans of human IgG Fc regions.
Because the enzyme is lyophilized, there is no need for refrigerated transport and storage is at room temperature. Concentration after reconstitution: 200 u/µl (1.0 mg/ml) in 10 µl/50 µl/100 µl H_2O dest. Delivered with 10x reaction buffer.

Unit definition: One unit of reconstituted Endo S will catalyze the deglycosylation of 10 µg of IgG in 60 minutes at 37 °C. One unit is equal to 1 IUB milliunit.

Cat.No.	Size
36408.01	10 µg
36408.01	50 µg
36408.01	100 µg

Endoproteinase Glu-C, recombinant sequencing grade

(V8 protease)
3.4.21.19 ♦ CAS [66676-43-5]

HS 35079090
Storage temperature -15 °C to -25 °C

Due to its highly specific cleavage of peptides the serine protease Glu-C (S. aureus V8) is used to produce protein digests for peptide mapping applications or protein identification by peptide mass fingerprinting or MS/MS spectral matching.
The specificity of Glu-C is primarily determined by the buffer pH and composition. Using phosphate buffers (pH 7.8), Glu-C will cleave at both glutamyl and aspartyl bonds. Ammonium bicarbonate buffer (pH 7.8) will lead to a preferential cleavage of glutamyl bonds. The presence of proline residues on the carboxy side of the peptide bond inhibits the cleavage.

- High specificity, purity and stability
- Recombinant - animal origin material free, consistent lot-to-lot quality

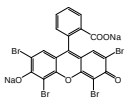
Cat.No.	Size
20984.01	50 µg

Eosin G

see 21005 Eosin Y·Na-salt, page 38

Eosin Y·Na-salt research grade

(Acid Red 87; Eosin Yellowish; Tetrabromo-fluorescein; Eosin G)
C.I.45380 ♦ $C_{20}H_6Br_4O_5 \cdot Na_2$ ♦ M_r 691.9 ♦ CAS [17372-87-1]



HS 29329900

Eosin Y is a slightly acid fluorescent dye, which stains cytoplasm red. The dye is used for the differential staining of connective tissue and cytoplasm, spore staining and in histopathology as a counterstain after hematoxylin and before methylene blue.
Tested for use as histological stain and as fluorescent indicator (Y = yellowish).

λ max. 0.001 % in water 516 ± 4 nm

Cat.No.	Size
21005.01	25 g

EPO Doping IEF Kit 30S

HS 38220000
Storage temperature -15 °C to -25 °C ✻

Ready-to-use kit for differentiation of natural and recombinant erythropoietin (EPO) in doping controls according to National and World Anti-Doping Agencies.
Kit contains 4 EPO IEF Clean Gels with 30 slots, rehydration additive, SERVALYT™ EPO mix, SERVALYT™ 6 – 8 as cathode buffer, electrode wicks and drying cardboards; suitable for HPE™ BlueTower, HPE™ BlueHorizon™ and HPE™ BlueHorizon™ Multi Deck.

Cat.No.	Size
43389.01	1 kit

Epon 812

see 21045 Glycid ether 100, page 49

EPON accelerator DMP-30

see 36975 2,4,6-Tris(dimethylaminomethyl)phenol, page 137

EPON hardener DDSA

see 20755 2-Dodecenylsuccinic acid anhydride, page 35

EPON hardener MNA

see 29452 Methylnadic anhydride, page 70

Epoxy embedding medium

see 21041 Embedding Medium ERL-4221D, page 37

1,2-Epoxypropane

see 33715 Propylene oxide, page 84

ERL-4206 hardener

see 30812 Nonenylsuccinic anhydride, page 76

ERL-4206 plasticizer

see 18247 D.E.R.® 736, page 31

Ethanol denaturated 96 %

C_2H_6O ♦ M_r 46.07 ♦ CAS [64-17-5]

DANGER
H225-H319 ♦ GGVSE/ADR 3 II UN1170 ♦ IATA 3 II UN1170 ♦ EINECS 200-578-6 ♦ WGK 2 L ♦ HS 22072000

Suitable for biochemical and histochemcal applications, for the preparation of staining and destaining solutions of PAGE gels.

Assay (CTB)	min. 95.0 %
Isopropanol	1 %
Methyl ethyl ketone	1 %
Denatoniumbenzoat	10 ppm
Aldehyde	max. 30 ppm
Acidity	max. 10 ppm
Methanol	max. 1000 ppm
Residue on evaporation	max. 25 ppm

Cat.No.	Size
11096.01	2,5 L
11096.02	5 L

Ethanol undenatured 96 % analytical grade

C_2H_6O ♦ M_r 46.07 ♦ CAS [64-17-5]

DANGER
H225-H319 ♦ MAK/TRK 500 ml/m³, 960 mg/m³ ♦ GGVSE/ADR 3 II UN1170 ♦ IATA 3 II UN1170 ♦ EINECS 200-578-6 ♦ WGK 1 ♦ HS 22071000

Suitable for analytical and biochemical applications.

Assay (GC)	94.0 - 96.0 %
Water (KF)	4.0 - 6.0 %

Cat.No.	Size
11094.01	1 L
11094.02	2,5 L

Ethanol undenatured absolute analytical grade

C_2H_6O ♦ M_r 46.07 ♦ CAS [64-17-5]

DANGER
H225-H319 ♦ MAK/TRK 500 ml/m³, 960 mg/m³ ♦ EG-Index 603-002-00-5 ♦ GGVSE/ADR 3 II UN1170 ♦ IATA 3 II UN1170 ♦ EINECS 200-578-6 ♦ WGK 1L ♦ HS 22071000

Suitable for use in analytical and biochemical applications.

Assay (GC)	min. 99.7 %
Water (KF)	max. 0.2 %

Cat.No.	Size
11093.01	250 ml
11093.02	1 L
11093.03	2,5 L

Ethanol undenatured absolute molecular biology grade

C_2H_6O ♦ M_r 46.07 ♦ CAS [64-17-5]

DANGER
H225-H319 ♦ MAK/TRK 500 ml/m³, 960 mg/m³ ♦ EG-Index 603-002-00-5 ♦ GGVSE/ADR 3 II UN1170 ♦ IATA 3 II UN1170 ♦ EINECS 200-578-6 ♦ WGK 1L ♦ HS 22071000

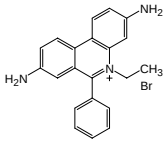
DNase/RNase not detected. Suitable for use in the precipitation of nucleic acids.

Assay	min. 99.7 %
Water (KF)	max. 0.2 %

Cat.No.	Size
39556.01	250 ml
39556.02	1 L
39556.03	2,5 L

Ethidium bromide aqueous solution 1 % w/v

DANGER
H332-H341 ♦ GGVSE/ADR 6.1 III UN2810 ♦ IATA 6.1 III UN2810 ♦ WGK 2 ♦



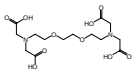
HS 38220000
Storage temperature +2 °C to +8 °C

Concentration: 10 mg/ml. Suitable for use in staining of DNA after electrophoresis or as counterstain of cell nuclei in histology and cytology.

Cat.No.	Size
21251.01	25 ml

Ethylene glycol bis(2-aminoethylether)-N,N,N‘,N‘-tetra acetic acid analytical grade

(EGTA; Chel-De; Egtazic acid; Ethylene-bis(oxyethylene-nitrilo)-tetraacetic acid)
$C_{14}H_{24}N_2O_{10}$ ♦ M_r 380.35 ♦ CAS [67-42-5]



EINECS 200-651-2 ♦ HS 29225000

Ethylene glycol bis(2-aminoethylether)-N, N, N‘, N‘-tetra acetic acid (EGTA) is an unspecific protease inhibitor like EDTA, but with a high selectivity for Ca^{2+} over Mg^{2+}. Inhibition results from chelating of metal ions leading to their removal from the surrounding medium. An excess of Ca^{2+} or Mg^{2+} compensates the inhibitory effect of EGTA.

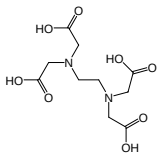
Assay (titr.) min. 99.0 %

References:
1. Berman, C. (1982) J. Biol. Chem. ***257,*** 1953-7

Cat.No.	Size
11290.01	5 g
11290.02	50 g

Ethylenediamine tetraacetic acid analytical grade

(EDTA; Ethylenedinitrilo-tetraacetic acid)
$C_{10}H_{16}N_2O_8$ ♦ M_r 292.3 ♦ CAS [60-00-4]



WARNING
H319-H332-H373 ♦ EG-Index 607-429-00-8 ♦ EINECS 200-449-4 ♦ WGK 2L ♦ HS 29212900

Ethylenediaminetetraacetic acid (EDTA) chelates metal divalent cations like calcium, magnesium by forming metal-EDTA complexes. EDTA is used in a wide range of applications: as a buffer component in nucleic acid purification and electrophoresis, an inhibtor of enzymes like metalloproteases and nucleases, an anti-bacterial agent and in cleaning products and detergent formulations.

Assay (titr.) min. 99.0 %

Cat.No.	Size
11278.01	100 g
11278.02	1 kg

Ethylenediamine tetraacetic acid·Na_2-salt molecular biology grade

(Versene disodium; EDTA-disodium)
$C_{10}H_{14}N_2O_8 \cdot Na_2 \cdot 2H_2O$ ♦ M_r 372.3 ♦ CAS [6381-92-6]

EINECS 205-358-3 ♦ WGK 2L ♦ HS 29212900

Ethylenediaminetetraacetic acid sodium salt (EDTA-Na_2) chelates metal divalent cations like calcium, magnesium by forming metal-EDTA complexes. EDTA is used in a wide range of applications: as a buffer component in nucleic acid purification and electrophoresis, an inhibitor of enzymes like metalloproteases and nucleases, an anti-bacterial inhibitor and in cleaning products and detergent formulations.
DNase/RNase not detected.

Assay (titr.) min. 99.0 %

Cat.No.	Size
39760.01	250 g

Ethylenediamine tetraacetic acid· Na_2-salt, solution, 0.5 M molecular biology grade

WGK 2 ♦ HS 38220000

DNase/RNase not detected. pH (20 °C): 8.0 ± 0.1, 0.5 M solution. Ready-to-use EDTA disodium salt solution, which can be readily diluted into any buffer of choice. Suitable for electrophoresis buffers, protein purification etc.

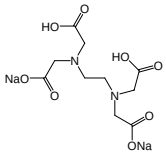
Composition:

EDTA·Na_2·$2H_2O$ (cat. no. 39760)	186.1 g/l
pH	8.0 ±0.1

Cat.No.	Size
39761.02	500 ml

Ethylenediamine tetraacetic acid·Na_2-salt analytical grade

(Versene disodium; EDTA-disodium)
$C_{10}H_{14}N_2O_8 \cdot Na_2 \cdot 2H_2O$ ♦ M_r 372.3 ♦ CAS [6381-92-6]



EINECS 205-358-3 ♦ WGK 2L ♦ HS 29212900

Ethylenediaminetetraacetic acid sodium salt (EDTA-Na_2) chelates metal divalent cations like calcium, magnesium by forming metal-EDTA complexes. EDTA is used in a wide range of applications: as a buffer component in nucleic acid purification and electrophoresis, an inhibtor of enzymes like metalloproteases and nucleases, an anti-bacterial agent and in cleaning products and detergent formulations.

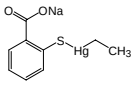
Assay (titr.). min. 99.0 %

Cat.No.	Size
11280.01	100 g
11280.02	1 kg

Ethylmercury thiosalicylic acid·Na-salt

research grade, Ph. Eur., USP

(Merthiolate; Thimerosal; Thiomersal)
$C_9H_9HgO_2S·Na$ ♦ M_r 404.8 ♦ CAS [54-64-8]



DANGER
H301-H310-H330-H373-H410
♦ MAK/TRK 0.01 ml/m³, 0,1 mg/m³ calculated as mercury ♦ EG-Index 080-004-00-7 ♦ GGVSE/ADR 6.1 III UN2025 ♦ IATA 6.1 III UN2025 ♦ EINECS 200-210-4 ♦ WGK 3L ♦ HS 28521000

Assay Ph. Eur. (Titration) 97.0 - 101.0 %

Cat.No.	Size
11340.02	25 g
11340.03	100 g

Excellent Gel Kit 7.5 % for 1D SDS PAGE

HS 38220000
Storage temperature +2 °C to +8 °C

The ready-to-use precast horizontal Excellent gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The standard support film is recommended for Coomassie® or silver staining. For fluorescence detection of proteins, gels cast on a non-fluorescent support film are available. The Excellent Gel Kits are the ideal alternative for ExcelGel™ for SDS PAGE from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE's ExcelGels™ ensuring comparable results.

Contains: 4 film-backed precast 7.5 % T SDS PAGE gels with a Tris/acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43422.01	1 kit

Excellent Gel Kit 12.5 % for 1D SDS PAGE

HS 38220000
Storage temperature +2 °C to +8 °C

The ready-to-use precast horizontal Excellent gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The standard support film is recommended for Coomassie® or silver staining. For fluorescence detection of proteins, gels cast on a non-fluorescent support film are available. The Excellent Gel Kits are the ideal alternative for ExcelGel™ for SDS PAGE from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE's ExcelGels™ ensuring comparable results.

Contains: 4 film-backed precast 12.5 % T SDS PAGE gels with a Tris/acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43421.01	1 kit

Excellent Gel Kit 15 % for 1D SDS PAGE

HS 38220000
Storage temperature +2 °C to +8 °C

The ready-to-use precast horizontal Excellent gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The standard support film is recommended for Coomassie® or silver staining. For fluorescence detection of proteins, gels cast on a non-fluorescent support film are available. The Excellent Gel Kits are the ideal alternative for ExcelGel™ for SDS PAGE from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE's ExcelGels™ ensuring comparable results.

Contains: 4 film-backed precast 12.5 % T SDS PAGE gels with a Tris/acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43425.01	1 kit

Excellent Gel Kit NF 7.5 % for 1D SDS PAGE

HS 38220000
Storage temperature +2 °C to +8 °C

The ready-to-use precast horizontal Excellent gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The gels are cast on a non-fluorescent support film making them suitable for all fluorescent applications. For Coomassie® or silver staining, gels cast on a standard support film are available.
Excellent Gel Kits are the ideal alternative for ExcelGel™ for SDS PAGE from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE's ExcelGels™ ensuring comparable results.

Contains: 4 film-backed precast 7.5 % T SDS PAGE gels with a Tris/acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43424.01	1 kit

Excellent Gel Kit NF 12.5 % for 1D SDS PAGE

HS 38220000
Storage temperature +2 °C to +8 °C

The ready-to-use precast horizontal Excellent gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The gels are cast on a non-fluorescent support film making them suitable for all fluorescent applications. For Coomassie® or silver staining, gels cast on a standard support film are available.
The Excellent Gel Kits are the ideal alternative for ExcelGel™ for SDS PAGE from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE's ExcelGels™ ensuring comparable results.

Contains: 4 film-backed precast 12.5 % T SDS PAGE gels with a Tris/acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43423.01	1 kit

Excellent Gel Kit NF 15 % for 1D SDS PAGE

HS 38220000
Storage temperature +2 °C to +8 °C

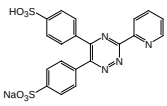
The ready-to-use precast horizontal Excellent gels are the ideal tool to run high resolution horizontal SDS PAGE. Up to 25 samples can be run in one gel, sample volume is 15 µl. The thin gel layer and running conditions at temperature-controlled 15 °C enable high resolution of protein bands, fast staining/destaining and much easier handling compared to vertical PAGE. Due to the horizontal method, low buffer consumption is an extra plus in comparison with operating a vertical system. The standard support film is recommended for Coomassie® or silver staining. For fluorescence detection of proteins, gels cast on a non-fluorescent support film are available. The Excellent Gel Kits are the ideal alternative for ExcelGel™ for SDS PAGE from GE. The gels have been developed in Heidelberg in close co-operation with researchers formerly using GE's ExcelGels™ ensuring comparable results.

Contains: 4 film-backed precast 12.5 % T SDS PAGE gels with a Tris/acetate buffer system (size: 260 x 125 x 0.43 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For run in horizontal flatbed chambers like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43426.01	1 kit

Ferrozine® analytical grade

(PDT disulfonate; 3-[2-Pyridyl]-5,6-diphenyl-1,2,4-triazine-4,4´-disulfonic acid·Na-salt)
$C_{20}H_{13}N_4O_6S_2 \cdot Na$ ♦ M_r 492.5 ♦ CAS [69898-45-9]



WARNING
H315-H319-H335 ♦ EINECS 274-196-3 ♦
WGK 1 ♦ HS 29336980

Specific reagent for serum iron determination with high sensitivity. For automated instrumental analysis (1, 2). For determination of acidity of urine and serum (3).

Assay (titr.) min. 98.0 %

Ferrozine = trademark of Diagnostic Chemicals, Canada.

References:
1. Stookey, L.L. (1970) Anal. Chem. ***42,*** 779-81
2. Carter, P. (1971) Anal. Biochem. ***40,*** 450-58
3. Butts, W.C. & Mulvigill, H.J. (1975) Clin. Chem. ***21,*** 1493-7

Cat.No.	Size
21326.02	5 g

Fibronectin (human) lyophil. analytical grade

(HFN)
M_r ca. 450 000 ♦ CAS [86088-83-7]

EINECS 289-149-2 ♦ WGK - ♦ HS 35040090
Storage temperature +2 °C to +8 °C

Enhances cell-cell and cell-substratum adhesion of transformed cells whereby a significant alteration of cellular morphology towards the normal phenotype is observed (1, 2).

Purity (SDS electrophoresis) > 90.0 %

References:
1. Ali, I.U. et al. (1977) Cell ***11,*** 115-26
2. Millis, A.J.T. & Hoyle, M. (1978) Nature ***271,*** 668-9
3. Review:
Kleinman, H.K. et al. (1987) Anal. Biochem. ***166,*** 1-13

Cat.No.	Size
21370.03	5 mg

FICOLL™ 400

M_r 300 000 - 500 000 ♦ CAS [26873-85-8]

WGK 1 ♦ HS 39139000

Suited for preparation of continuous and discontinuous density gradients. For stabilization of membrane-bound particles, isolation of lymphocytes. Dialyzable material (including NaCl) max. 1 %. Better osmotic properties than sucrose, it preserves functional and morphological integrity and does not penetrate biological membranes.
FICOLL™ 400 is a neutral, highly branched, hydrophilic polymer of sucrose which dissolves readily in aqueous solution. Concentrations up to 50 % (w/v), covering a density range up to 1.2 g/ml, can be obtained without exceeding normal osmolarity.

FICOLL = trademark of GE Healthcare companies.

References:
1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (B.15, 6.12)

Cat.No.	Size
21373.02	50 g

1 ml FliQ Column

HS 38220000

Empty 1 ml FPLC chromatography column.
Both ends of the FliQ columns have 10.32 UNF threads which fit all common chromatography instruments. Pack your own resin into these columns. Separate your proteins using an FPLC, HPLC, low pressure pump or a syringe. Use your own resins or use our own high capacity, high flow rate resins e.g. Protein A Agarose, Protein G Agarose, Ni-Superflow, Resin.

Specifications
Bead volume: 1 ml resin
Simple packing procedure
Universal 10.32 UNF threads
Compatible with FPLC & HPLC
Flow rate: 0.5 to 2 ml/min
Stability: pH 2 - 14
Max. pressure: 70 psi (5 bar)
10.32 packing connector sold separately (cat. no. 42282.01)

Cat.No.	Size
42278.01	1 piece

5 ml FliQ Column

HS 38220000

Empty 5 ml FPLC chromatography column.
Both ends of the FliQ columns have 10.32 UNF threads which fit all common chromatography instruments. Pack your own resin into these columns. Separate your proteins using an FPLC, HPLC, low pressure pump or a syringe. Use your own resins or use our own high capacity, high flow rate resins e.g. Protein A Agarose, Protein G Agarose, Ni-Superflow, Resin.

Specifications
Bead volume: 5 ml resin
Simple packing procedure
Universal 10.32 UNF threads
Compatible with FPLC & HPLC
Flow rate: 0.5 to 2 ml/min
Stability: pH 2 - 14
Max. pressure: 42 psi (3 bar)
10.32 packing connector sold separately (cat. no. 42282.01)

Cat.No.	Size
42279.01	1 piece

10 ml FliQ Column

HS 38220000

Empty 10 ml FPLC chromatography column.
Both ends of the FliQ columns have 10.32 UNF threads which fit all common chromatography instruments. Pack your own resin into these columns. Separate your proteins using an FPLC, HPLC, low pressure pump or a syringe. Use your own resins or use our own high capacity, high flow rate resins e.g. Protein A Agarose, Protein G Agarose, Ni-Superflow, Resin.

Specifications
Bead volume: 10 ml resin
Simple packing procedure
Universal 10.32 UNF threads
Compatible with FPLC & HPLC
Flow rate: 0.5 to 2 ml/min
Stability: pH 2 - 14
Max. pressure: 42 psi (3 bar)
10.32 packing connector sold separately (cat. no. 42282.01)

Cat.No.	Size
42280.01	1 piece

Fluorescence Gel Scanner

HS 90278017

Bio-1000F is an innovative, user-friendly and cost-effective fluorescence gel imager that integrates image capture, gel preview, and gel extraction essential for routine nucleic acid and protein gel electrophoresis. With the combination of high-sensitivity CCD system and Blue-LED illuminators, Bio-1000F is compatible with all EtBr-alternative fluorescent stains and provides the publication-quality image up to 0.04 ng per band, significantly enhancing the fluorescent signal expression over other gel documentation systems dependent on UV and Blue-LED light sources. Moreover the scanner allows to detect proteins pre-labelled with SERVA Lightning Red and other fluorescent dyes that are excitated with blue light and emitting above 520 nm with a sensitivity of about 1 ng protein/band (for SERVA Lightning Red).
Incorporating removable filter plate and intuitive MiBioFluo software interface, users can visualize banding pattern and conduct gel extraction directly on Bio-1000F for more convenient operation without movement between trans-illuminator and gel imager. The compact design especially enables Bio-1000F to fit in crowded laboratory space. Bio-1000F features an integrated, environmental friendly, and ultra-sensitive gel imager for researchers, dedicated to improve the laboratory safety and gel electrophoresis process efficiency.

Cat.No.	Size
BIO-1000F	1 piece

Fluorescence labelling

see 43402 SERVA PRiME™ Lightning Red page 108

Fluorescence labelling

see 43400 SERVA HPE™ Lightning Red, page 103

Fluorescence staining

see 43386 SERVA Purple, page 109

Fluorobind Membrane, surface PVDF

Pore size 0.2 µm, format: 25 cm x 3 m

HS 39219090

Fluorobind membranes are based on PVDF-type chemistry and show an excellent protein binding capacity. They are not only suitable for all standard applications in protein analysis, but as well for special applications like fluorescence detection and protein sequencing. The pore size of 0.2 µm is ideal for blotting of proteins of lower molecular weight and peptides, but can as well be used for larger proteins. The membranes feature a high sensitivity with low background in all common detection systems. The high mechanical stability facilitates handling and allows multiple stripping of the membrane and harsh washing conditions.

Cat.No.	Size
42571.01	1 roll

Fluoromount for microscopy

WARNING
H226-H315-H319-H335-H411 ♦ GGVSE/ ADR 3 III UN1866 ♦ IATA 3 III UN1866 ♦ WGK 2 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Non-fluorescent mounting medium for microscopy, based on polyacrylate in xylene.

Refractive index (20 °C) 1.454 - 1.457

References:
1. Gurr, E. (1951) J.R. Nav. Med. Serv. ***37***, 133-40
2. De Jong, J.H. (1978) Stain Technol. ***53***, 169-72

Cat.No.	Size
21644.01	50 ml

Fluoromount W for microscopy, aqueous solution

WGK 2S ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Non-fluorescent mounting medium for microscopy. Ideal for F.I.T.C.

Cat.No.	Size
21634.01	50 ml

FocusGel 3-10 Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 3-10.
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamide monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface. Samples are applied to the gel using applicator strips.

Cat.No.	Size
43327.01	5 gels

FocusGel 3-10 24S Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 3-10, 24 slots for 25 µl.
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamide monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface.

Cat.No.	Size
43335.01	5 gels

FocusGel 3-7 Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 3-7.
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamide monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface. Samples are applied to the gel using applicator strips.

Cat.No.	Size
43328.01	5 gels

FocusGel 3-7 24S Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 3-7, 24 slots for 25 µl.
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamide monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface.

Cat.No.	Size
43387.01	5 gels

FocusGel 4-5 24S Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 4-5, 24 slots for 25 µl.
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamide monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface.

Cat.No.	Size
43332.01	5 gels

FocusGel 4-6 24S Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 4-6, 24 slots for 25 µl.
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamide monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface.

Cat.No.	Size
43334.01	5 gels

FocusGel 6-11 24S Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 6-11, 24 slots for 25 µl.
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamide monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface.

Cat.No.	Size
43329.01	5 gels

FocusGel 6-11 40S Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 6-11, 40 slots for 12 µl.
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamide monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface.

Cat.No.	Size
43333.01	5 gels

FocusGel 6-9 24S HEM Size: 250 x 115 x 0.65 mm

HS 38220000

Ready-to-use horizontal gels for IEF, pH 6-9, 24 slots for 25 µl.
0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for isoelectric focusing. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamide monomers are removed from the matrix. They contain a special SERVALYT™ cocktail designed to achieve an optimal pH gradient. Electrode solutions and electrode strips are not required, the electrodes are placed directly on the gel surface.

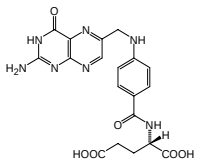
Cat.No.	Size
43330.01	5 gels

Folic acid cryst. research grade, Ph. Eur.

(Pteroylmonoglutamic acid; Folsäure)
$C_{19}H_{19}N_7O_6$ ♦ M_r 441.4 ♦ CAS [59-30-3]

EINECS 200-419-0 ♦ WGK 1L ♦ HS 29362900

Assay (HPLC)	96.0 - 102.0 %



Cat.No.	Size
21700.02	25 g

Formic acid 99 % for LC-MS

CAS [64-18-6]

DANGER
H226-H302-H314-H331 ♦ EG-Index 607-001-00-0 ♦ GGVSE/ADR 8 II UN1779 ♦ IATA 8 II UN1779 ♦ EINECS 200-579-1 ♦ WGK 1 ♦ HS 29151100

Additive for eluent phase for LC-MS.

Assay (acidimetric)	min. 99.0 %
Refractive index (20 °C)	1.3709 – 1.3719
Residue on evaporation	max. 10 ppm

Transmittance

260 nm	min. 20 %
270 nm	min. 85 %

Metal Compounds

Al	max. 0.05 ppm
Mg	max. 0.1 ppm
Fe	max. 0.2 ppm
Ca	max. 0.2 ppm
K	max. 0.1 ppm
Na	max. 0.5 ppm

Cat.No.
45640.01

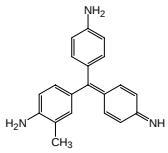
Fuchsin acid pure

(Acid Violet 19; Rubin S; Fuchsin trisulfonate)
C.I. 42685 ♦ $C_{20}H_{17}N_3Na_2O_9S_3$ ♦ M_r 585.5 ♦ CAS [3244-88-0]

WGK 2L ♦ HS 32041200

Fuchsin acid is used for staining connective tissues in histological sections with trichrome staining acc. to Mallory and van Gieson and as indicator pH 12 - 14.

λmax. 0.001 % in H_2O	546 ±4 nm



Cat.No.	Size
34597.01	25 g

Fungicidin

see 29870 Nystatin min. 4 400 units/mg, page 77

G 418 solution sterile filtered

HS 38220000
Storage temperature -15 °C to -25 °C

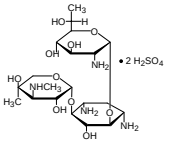
Stock solution, for cell culture, biochemistry and molecular biology.
Formulated to contain 50 mg/ml G 418 base in deionized water.
50 mg G 418 base are approx. 70 mg G 418 sulfate (based on dry weight).
The working concentration has to be established for every cell type.
Bacteria and algae require 5 µg/ml or less while animal cells may require 300 - 500 µg/ml.
G 418 is an aminoglycoside antibiotic from *Micromonospora rhodorangea*. Used for the selection and maintenance of eukaryotic cells expressing the neomycin resistance gene (neo). G418 blocks polypeptide synthesis by inhibiting the elongation step. It is similar in structure to gentamycin B1 but active against both bacteria and eukaryotes.

Cat.No.	Size
47995.01	20 ml

G 418 sulfate

(Geneticin®)
$C_{20}H_{40}N_4O_{10}\cdot 2H_2SO_4$ ♦ M_r 692.7 ♦ CAS [108321-42-2]

DANGER
H317-H334 ♦ WGK 3 ♦ HS 29419000



Aminoglycoside antibiotic from *Micromonospora rhodorangea*. Used for the selection and maintenance of eukaryotic cells expressing the neomycin resistance gene (neo). G418 blocks polypeptide synthesis by inhibiting the elongation step. It is similar in structure to gentamycin B1 but active against both bacteria and eukaryotes.

Potency min. 650 µg/mg

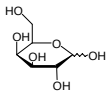
Geneticin = trademark of LTI.

References:
1. Southern, P.J. & Berg, P. (1982) J. Mol. Appl. Genetics ***1,*** 327-41
2. Bar-Nun, S. et al. (1983) Biochim. Biophys. Acta. ***741***, 123-7
3. Hadfield, C. et al. (1990) Curr. Genet. ***18***, 303-13
4. Wang, X. et al. (1996) Biotechnol. Bioeng. ***49***, 45-51
5. Kunik, T. et al. (2001) PNAS ***98***, 1871-6
6. D'Artagnan Villalba, J. et al. (2007) Microbiology ***153***, 3852-63
7. Gietz, R.D. & Schiestl, R.H. (2007) Nature Protocols ***2***, 31-4

Cat.No.	Size
49418.03	1 g

D-Galactose research grade

$C_6H_{12}O_6$ ♦ M_r 180.16 ♦ CAS [59-23-4]



EINECS 200-416-4 ♦ WGK 1 ♦ HS 29400000

Assay (HPLC)	min. 98.0 %
MP	165 - 172 °C
[α] 20 °C/D (c=10 % in water)	+ 78 ° to + 81.5 °

Cat.No.	Size
22020.02	500 g

Gaskets 0.5 Size 264 x 126 mm

HS 39269097

Silicone, U-shaped, 0.5 mm thick, for cuvette techniques.

Cat.No.	Size
42929.01	6 pieces

Gaskets 1.0 Size 264 x 126 mm

HS 39269097

Silicone, U-shaped, 1.0 mm thick, for cuvette techniques.

Cat.No.	Size
42930.01	6 pieces

GE 100

see 21045 Glycid ether 100, page 49

GEL-FIX™ for PAG Size: 245 mm x 125 mm

HS 39206300

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

GEL-FIX = trademark of SERVA

Cat.No.	Size
42980.01	36 sheets

GEL-FIX™ for PAG Size: 260 mm x 125 mm

HS 39206300

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

Cat.No.	Size
42999.01	36 sheets

GEL-FIX™ for PAG Size: 260 mm x 203 mm

HS 39206300

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

Cat.No.	Size
42961.01	36 sheets

GEL-FIX™ for PAG Size: 265 mm x 125 mm

HS 39206300

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

Cat.No.	Size
42993.01	36 sheets

GEL-FIX™ for PAG Size: 265 mm x 193 mm

HS 39206300

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

Cat.No.	Size
42983.01	36 sheets

GEL-FIX™ for PAG Size: 50 m x 125 mm

HS 39206300

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

Cat.No.	Size
42966.01	1 roll

GEL-FIX™ for PAG Size: 50 m x 193 mm

HS 39206300

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

Cat.No.	Size
42968.01	1 roll

GEL-FIX™ for PAG Size: 200 m x 193 mm

HS 39206300

Supporting film for casting of polyacrylamide gels; 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels.

Cat.No.	Size
42996.01	1 roll

GEL-FIX™ for Agarose Size: 80 mm x 125 mm

HS 39206300

Supporting film for casting of agarose gels. 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

GEL-FIX is a trademark of SERVA.

Cat.No.	Size
42998.01	36 sheets

GEL-FIX™ for Agarose Size: 125 mm x 125 mm

HS 39206300

Supporting film for casting of agarose gels. 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

Cat.No.	Size
42997.01	36 sheets

GEL-FIX™ for Agarose Size: 258 mm x 125 mm

HS 39206300

Supporting film for casting of agarose gels. 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

Cat.No.	Size
42982.01	36 sheets

GEL-FIX™ for Agarose Size: 265 mm x 125 mm

HS 39206300

Supporting film for casting of agarose gels. 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

Cat.No.	Size
42981.01	36 sheets

GEL-FIX™ Covers Size: 245 mm x 125 mm

HS 39206300

Film for covering gel surfaces; 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

GEL-FIX is a trademark of SERVA.

Cat.No.	Size
42957.01	36 sheets

GEL-FIX™ Covers Size: 265 mm x 125 mm

HS 39206300

Film for covering gel surfaces; 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

Cat.No.	Size
42970.01	36 sheets

GEL-FIX™ Covers Size: 265 mm x 193 mm

HS 39206300

Film for covering gel surfaces; 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

Cat.No.	Size
42969.01	36 sheets

GEL-FIX™ Covers Size: 280 mm x 125 mm

HS 39206300

Film for covering gel surfaces; 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

Cat.No.	Size
42995.01	36 sheets

Gelatin Ph. Eur.

CAS [9000-70-8]

EINECS 232-554-6 ♦ WGK 1 ♦ HS 35030010

Gelatin is used in cell culture for coating of plastic ware to improve cell attachment and in tissue engineering for generation of scaffolds, as a blocking reagent in immunochemistry and histology, and for species differentiation in bacteriology. In the pharmaceutical industry, it can be used as a suspending and encapsulating agent.
Special quality for bacteriology. A 5 % solution liquefies at 25 - 30 °C and begins to set at 19 - 25 °C.

Cat.No.	Size
22151.02	500 g

Gelatin capsules No. 0 for electron microscopy

HS 35030010

Used as an embedding mold for water miscible resins, or resins which need to be cured by transmitted light.

Volume	0.7 cm^3
Length	21.8 mm
Diameter	7.7 mm

Cat.No.	Size
43520.02	500 pieces

Gelatin, liquid

M_r ca. 60 000 ♦ CAS [9000-70-8]

HS 35030080

From fish skin. Solids content 44.0 - 46.0 %. Contains methyl-/propyl-PHB as preservative. Specially prepared and purified gelatin. Supplied as a pourable liquid. Completely water soluble, even at room temperature and at high concentrations. Acts as a protective colloid.

Cat.No.	Size
22156.01	100 ml

Gelrite®

(Agar Substitute; K9A-40; Gellan-Gum)
CAS [71010-52-1]

EINECS 275-117-5 ♦ WGK 1 ♦ HS 39131000

Highly-purified polysaccharide produced by bacteria. Useful alternative to agar for the in vitro culture of many plants and in microbiological culture media.
High salt concentrations increase gelling temperature and polymerisation is enhanced in the presence of bivalent cations.

- Yields very clear gels
- Consistent quality from lot to lot
- Economical, because only about half the amount of agar is required
- Reduced gel preparation time
- Stable at high temperature and withstands repeated autoclaving

Gelrite = registered trademark of Merck & Co., Inc. USA

References:

1. Shungu, D. et al. (1983) Appl. Environm. Microbiol. ***46,*** 840-5
2. Sanderson, G. & Clark, R. (1983) Food Technology ***37,*** 63-70

Cat.No.	Size
22168.01	250 g
22168.02	1 kg

Geneticin®

see 49418 G 418, page 47

Gentamycin Solution sterile filtered

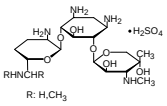
DANGER
H317-H334-H361D ♦ WGK 1 ♦ HS 38220000
Storage temperature -15 °C to -25 °C

Formulated to contain 50 mg/ml gentamycin base in deionized water.
50 mg gentamycin base correspond to approx. 50 000 units of gentamycin and are approx. 80 mg gentamycin sulfate.
Gentamycin is an aminoglycoside antibiotic complex from *Micromonospora purpurea* and consists of closely related compounds: gentamycin C1, C1a, C2, C2a and C2b. Inhibits bacterial protein synthesis by binding to the ribosomal 30S subunit and causing misreading of mRNA (in a similar way as streptomycin).
Broad spectrum antibiotic which inhibits growth of many gram positive and gram negative bacteria including strains which are resistant to chloramphenicol, kanamycin or tetracycline. Frequently used in cell culture, often in combination with amphotericin B, nystatin or penicillin G.

Cat.No.	Size
47991.01	20 ml

Gentamycin sulfate research grade, Ph. Eur.

(Gentamicin sulfate)
CAS [1405-41-0]



DANGER
H317-H334-H361 ♦ EINECS 215-778-9 ♦
WGK 1 ♦ HS 29419000

Min. 590 U/mg. Aminoglycoside antibiotic complex from *Micromonospora purpurea*.
Consists of closely related compounds: gentamycin C_1, C_{1a}, C_2, C_{2a} and C_{2b}. Inhibits bacterial protein synthesis by binding to the ribosomal 30S subunit and causing misreading of mRNA (in a similar way as streptomycin). Broad spectrum antibiotic which inhibits growth of many gram positive and gram negative bacteria including strains which are resistant to chloramphenicol, kanamycin or tetracycline. Frequently used in cell culture, often in combination with amphotericin B, nystatin or penicillin G (1,3).

References:

1. Watts, J.W. & King, J.M. (1973) Planta ***113***, 271-7
2. Cox, D. et al. (1977) in: Sammes, P.G. (ed.) Topics in antibiotics chemistry Vol. ***I*** Chichester: Horwood, pp. 1-90
3. Eichholtz, D.A. et al. (1979) Plant Physiol. ***63***, Abstr. 753
4. Lancini, G. & Parenti, F. (1982) Antibiotics; Springer, New York
5. Nakamura, T. et al. (1991) J. Biol. Chem. ***266***, 19432-7
6. Stubbs, A.C. et al. (2001) Nature Medicine ***7***, 625-9
7. Manevich, Y. et al. (2002) PNAS ***99***, 11599-604
8. Richard, J.P. et al. (2005) J. Biol. Chem. ***280***, 15300-6

Cat.No.	Size
22185.01	1 g
22185.02	5 g
22185.03	25 g

Gentian Violet 10B

see 27335 Crystal Violet, page 30

GermDecon

DANGER
H225-H319-H336 ♦ GGVSE/ADR 3 II UN1219 ♦
IATA 3 II UN1219 ♦ HS 38089490

Wide disinfectant for instruments and surfaces.
To avoid cross-contamination or infection, disinfection of work places and instruments, especially in laboratories working with biological samples, is mandatory.
GermDecon is an isopropyl alcohol based, non-corrosive and non-carcinogenic solution which can be easily sprayed on all surfaces without leaving any traces.
It is among others active against: *Bacillus subtilis, Candida albicans, Clostridium, Coliforms, E. coli, Enterococcus faecalis, Listeria, MRSA, Pseudomonas aeruginosa, Proteus mirabilis, Salmonella, Staphylococcus aureus, Streptococcus pyogenes* and *fungi*.
Supplied in a spray bottle (750 ml).

Cat.No.	Size
34207.01	750 ml

Glacial acetic acid

see 45633 Acetic acid 100 %, page 2

Glass Plate, Notched 3.0 mm, for BlueVertical™ PRiME™ Casting Stand

HS 90272000

For BlueVertical™ PRiME™ Casting Stand BV-104-CS.

Cat.No.	Size
BV-GP-N	4 pieces

Glass Plate, Plain 3.0 mm, with 1 mm Spacer, for BlueVertical™ PRiME™ Casting Stand

HS 90272000

For BlueVertical™ PRiME™ Casting Stand BV-104-CS.

Cat.No.	Size
BV-GP-P1.0	4 pieces

Glass Plate, Plain 3.0 mm, with 1.5 mm Spacer, for BlueVertical™ PRiME™ Casting Stand

HS 90272000

For BlueVertical™ PRiME™ Casting Stand BV-104-CS.

Cat.No.	Size
BV-GP-P1.5	4 pieces

Glass Plates

HS 70031990

Size: 265 x 128 x 3 mm, supports for gel sheets for casting of horizontal gels.

Cat.No.	Size
42952.01	4 pieces

Glass wool, silanized research grade

WARNING
H315-H319-H335 ♦ HS 70199000

A very soft material for plugging columns in gas and liquid chromatography.

Cat.No.	Size
22367.01	10 g
22367.03	50 g

γ-Globulin bovine

M_r 150000 ♦ CAS [9007-83-4]

EINECS 232-706-1 ♦ WGK 1 ♦ HS 30021091
Storage temperature +2 °C to +8 °C

Cohn-Fraction II. Highly purified. Soluble in saline and standard buffers. Suitable to reduce non-specific adsorption of antibody in immunoassay systems. Starting material for the isolation of IgG subclasses.

Assay (CAF)	96.0 - 100.0 %
pH (7 % solution)	6.8 - 7.2
Moisture (KF)	max. 5.0 %

Cat.No.	Size
22550.01	5 g
22550.02	25 g

α-D-Glucopyranosyl-α-D-glucopyranoside

see 36770 D-Trehalose, page 136

α-D-Glucose anhydrous analytical grade

(Dextrose; α-D-Glucopyranose)
$C_6H_{12}O_6$ ♦ M_r 180.16 ♦ CAS [50-99-7]

EINECS 200-075-1 ♦ WGK 1L ♦ HS 17023050

Assay (titr.)	min. 99.5 %
Water (loss on drying)	max. 0.5 %

Cat.No.	Size
22700.01	100 g
22700.02	1 kg

α-D-Glucose monohydrate analytical grade, Ph. Eur.

(Dextrose)
$C_6H_{12}O_6 \cdot H_2O$ ♦ M_r 198.2 ♦ CAS [14431-43-7]

EINECS 200-075-1 ♦ WGK 1L ♦ HS 17023050

For biochemistry, microbiology and cell culture.

[α] 20 °C/D	+52.5° to +53.3°
Water (KF)	7.0 - 9.5 %

Cat.No.	Size
22720.01	1 kg

Glucose-6-phosphate dehydrogenase from yeast ca. 140 U/mg protein suspension

(G6P-DH)
EC 1.1.1.49 ♦ M_r ca. 102 000 ♦ CAS [9001-40-5]

EINECS 232-602-6 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

Glucose-6-phosphate dehydrogenase (G-6-P-DH) catalyzes the conversion of glucose-6-phosphate to 6-phosphogluconolacetone as the first step in the pentose phosphate pathway. The enzyme is used to test ketose reductase activity in developing maize endosperm.
In 3.2 M ammonium sulfate; pH 6.0.
1 mg corresponds to approx. 0.2 ml, 10 mg correspond to approx. 2 ml.

References:
1. Bergmeyer, H.U. (1983) Methods of Enzymatic Analysis, 3rd Ed.Vol. ***2,*** p. 202-3

Cat.No.	Size
22820.01	1 mg

Glucose oxidase from *Aspergillus niger* min. 220 U/mg lyophil.

EC 1.1.3.4 ♦ M_r ca. 160 000 ♦ CAS [9001-37-0]

DANGER
H334 ♦ EINECS 232-601-0 ♦ WGK 1L ♦ HS 35079090
Storage temperature -15 °C to -25 °C ✻

Glucose oxidase is used in the enzymatic determination of D-glucose in solution. Glucose oxidase oxidizes β-D-glucose to D-gluconolactate and hydrogen peroxide. Horseradish peroxidase is then used as the coupling enzyme for glucose determination. Although glucose oxidase is specific for β-D-glucose, solutions of D-glucose can be quantified as α-D-glucose will mutorotate to β-D-glucose as the β-D-glucose is consumed by the enzymatic reaction.
Unit definition: 1 U catalyzes the oxidation of 1 µmole glucose to glucuronic acid per minute at 25 °C, pH 7 coupled with peroxidase and o-dianisidine (2).

References:
1. Tsuge, H. & Mitsuda, H. (1973) J. Biochem. (Tokyo) ***73,*** 199-206
2. Kunst, A. et al. (1984) in Methods of Enzymatic Analysis (Bergmeyer, H.U., ed.) 3rd ed. Vol. ***6,*** 178-85
3. Pazur, J.H. (1966) in Methods in Enzymology (Colowick, S.P. & Kaplan, N.O., eds.) Vol. ***IX***, 82-7
4. O'Malley, J.J. & Weaver, J.L. (1972) Biochemistry ***11***, 3527-321

Cat.No.	Size
22739.02	500 mg

Glucose oxidase from *Aspergillus niger* min. 220 U/mg lyophil.

(GOD)
EC 1.1.3.4 ♦ M_r ca. 160 000 ♦ CAS [9001-37-0]

DANGER
H334 ♦ EINECS 232-601-0 ♦ WGK 1L ♦ HS 35079090
Storage temperature -15 °C to -25 °C ✻

Glucose oxidase is used in the enzymatic determination of D-glucose in solution (1). Glucose oxidase oxidizes β-D-glucose to D-gluconolactate and hydrogen peroxide. Horseradish peroxidase is then used as the coupling enzyme for glucose determination. Although glucose oxidase is specific for β-D-glucose, solutions of D-glucose can be quantified as α-D-glucose will mutorotate to β-D-glucose as the β-D-glucose is consumed by the enzymatic reaction.
Ca. 300 U/mg protein.

Unit definition: 1 U catalyzes the oxidation of 1 µmole glucose to glucuronic acid per minute at 25 °C, pH 7 coupled with peroxidase and o-dianisidine (1).

Extraneous activities: Amylase, saccharase and maltase less than 0.05 %; GOD/catalase min. 2000.

References:
1. Kunst, A. et al. (1984) Methods of Enzymatic Analysis (Bergmeyer, H.U., ed.) 3rd Ed. Vol. ***6,*** p. 178-85
2. Tsuge, H. & Mitsuda, H. (1973) J. Biochem. (Tokyo) ***73,*** 199-206
3. Pazur, J.H. (1966) in Methods in Enzymology (Colowick, S.P. & Kaplan, N.O., eds.)Vol. ***IX***, 82-7
4. O'Malley, J.J. & Weaver, J.L. (1972) Biochemistry ***11***, 3527-32

Cat.No.	Size
22778.01	100 mg
22778.02	500 mg

Glutamate dehydrogenase from bovine liver ca. 100 U/mg protein solution

(L-Glutamate: NAD(P)$^+$ oxidoreductase (deaminating))
EC 1.4.1.3 ♦ M_r ca. 350 000

DANGER
H334 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

For the determination of L-glutamate, ammonia and 2-oxoglutaric acid (1, 2). Suitable for urea determination in conjunction with urease (cat. no. 37799).
In 50 % glycerol.
25 mg correspond to approx. 1 ml, 100 mg correspond to approx. 4 ml.

Unit definition: 1 U catalyzes the reductive amination of 1 µmole 2-oxoglutarate per minute at 25 °C, pH 7.3 in the presence of ADP.

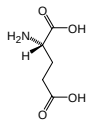
Activity in other units: ca. 40 U/mg protein (1 U causes the transformation of 1 µmole 2-oxoglutarate per minute at 25 °C and pH 7.3 under assay conditions not containing ADP).
Extraneous activities: LDH, MDH each max. 0.01 %; Ammonium ions less than 0.001 µmole per unit.

References:
1. Schmidt, E. & F.W.. (1983) Methods of Enzymatic Analysis (Bergmeyer, H.U. ed.) 3rd Ed. Vol. ***3,*** p. 216-27
2. Lund, P. (1985) Methods of Enzymatic Analysis (Bergmeyer, H.U. ed.) 3rd Ed. vol. ***8,*** p. 357-63

Cat.No.	Size
22904.01	25 mg
22904.02	100 mg

L-Glutamic acid research grade, Ph. Eur.

(L-2-Aminoglutaric acid; Glu)
$C_5H_9NO_4$ ♦ M_r 147.13 ♦ CAS [56-86-0]



EINECS 200-293-7 ♦ WGK 1 ♦ HS 29224200

Assay (titr.)	98.5 - 100.5 %
Heavy metals (Pb)	max. 10 ppm

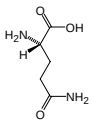
Cat.No.	Size
23000.01	250 g

L-Glutamic acid-5-amide

see 47204 L-Glutamine, page 47

L-Glutamine analytical grade, USP

(L-Glutamic acid-5-amide; L-2-Gln; Aminoglutaramic acid)
$C_5H_{10}N_2O_3$ ♦ M_r 146.2 ♦ CAS [56-85-9]



EINECS 200-292-1 ♦ WGK 1L ♦ HS 29224985

Assay (titr.)	99.0 - 101.0 %
Heavy metals (Pb)	max. 5 ppm.

Cat.No.	Size
22942.02	100 g
22942.03	250 g

L-Glutamine cell culture grade

(L-Glutamic acid-5-amide; L-2-Gln; Aminoglutaramic acid)
$C_5H_{10}N_2O_3$ ♦ CAS [56-85-9]

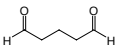
EINECS 200-292-1 ♦ HS 29224985

Assay (titr.)	min. 99.0 %
Endotoxin	≤ 50.0 E.U./g
Loss on drying	max. 0.2 %
Chloride (Cl)	max. 200 ppm
Sulfate (SO_4)	max. 200 ppm
Heavy metals (as Pb)	max. 10 ppm
Iron (Fe)	max. 10 ppm

Cat.No.	Size
47204.03	1 kg

Glutaraldehyde 25 % solution in water
for electron microscopy, standard grade

(Glutaric dialdehyde)
$C_5H_8O_2$ ♦ M_r 100.13



DANGER
H302-H314-H317-H331-H334-H335-H400
♦ MAK/TRK 0.1 ml/m³, 0.42 mg/m³ for glutaraldehyde ♦ GGVSE/ADR 8 II UN2922 ♦ IATA 8 II UN2922 ♦ WGK 3 ♦ HS 29121900
Storage temperature +2 °C to +8 °C

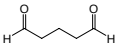
Glutaraldehyde is an effective protein crosslinker and finds application in techniques like enzyme immobilisation microscopy, histochemistry and cytochemistry.
Filled under argon.

Refractive index (20 °C) 1.3690 - 1.3755

Cat.No.	Size
23115.01	250 ml

Glutaraldehyde 25 % solution in water
for electron microscopy, high purity

(Glutaric dialdehyde)
$C_5H_8O_2$ ♦ M_r 100.13



DANGER
H302-H314-H317-H331-H334-H335-H400
♦ MAK/TRK 0.1 ml/m³, 0.42 mg/m³ for glutaraldehyde ♦ GGVSE/ADR 8 II UN2922 ♦ IATA 8 II UN2922 ♦ WGK 3 ♦ HS 29121900
Storage temperature +2 °C to +8 °C

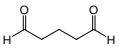
Glutaraldehyde is an effective protein crosslinker and finds application in techniques like enzyme immobilisation microscopy, histochemistry and cytochemistry.
Filled under argon.

Purification index (A235/A280, 1 % in water) max. 0.5

Cat.No.	Size
23114.01	25 ml
23114.02	10 x 5 ml

Glutaraldehyde 50 % solution in water for electron microscopy

(Glutaric dialdehyde)
$C_5H_8O_2$ ♦ M_r 100.13



DANGER

H301-H314-H317-H331-H334-H335-H400 ♦ MAK/TRK 0.1 ml/m³, 0.42 mg/m³ for glutaraldehyde ♦ GGVSE/ADR 8 II UN2922 ♦ IATA 8 II UN2922 ♦ WGK 3 ♦ HS 29121900
Storage temperature +2 °C to +8 °C

Glutaraldehyde is an effective protein crosslinker and finds application in techniques like enzyme immobilisation microscopy, histochemistry and cytochemistry.
Filled under argon.

Refractive index (20 °C) 1.410 - 1.421

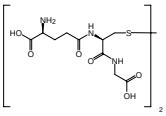
Cat.No.	Size
23116.01	25 ml
23116.02	10 x 5 ml

Glutaric dialdehyde

see 23114 Glutaraldehyde 25 % solution in water, page 48

L-Glutathione (oxidized form) cryst. research grade

(GSSG)
$C_{20}H_{32}N_6O_{12}S_2$ ♦ M_r 612.64 ♦ CAS [27025-41-8]



EINECS 248-170-7 ♦ WGK 1 ♦ HS 29309016
Storage temperature +2 °C to +8 °C

L-Glutathione oxidized (GSSG) is the dimeric form of glutathione (GSH). In vivo GSSG is reduced by the NADPH-dependent enzyme glutathione reductase. The ratio of GSH to GSSG is often used to measure the level of oxidative stress in cells, with higher concentrations of GSSG implying more oxidative stress.

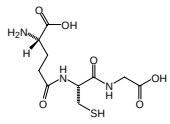
Assay (HPLC) min. 98.0 %
[α] 20 °C/D (c=4 % in water) -106.0 ° to - 96.0 °

References:
1. Review: Meister, A. & Anderson, M.E. (1983) Ann. Rev. Biochem. ***52,*** 711-60

Cat.No.	Size
23130.01	1 g
23130.02	5 g

L-Glutathione (reduced form) cryst. research grade

(GSH; γ-L-Glutamyl-L-cysteinylglycine)
$C_{10}H_{17}N_3O_6S$ ♦ M_r 307.3 ♦ CAS [70-18-8]



EINECS 200-725-4 ♦ WGK 2L ♦ HS 29309016
Storage temperature +2 °C to +8 °C

Suitable to elute GST-tagged proteins from glutathione-agarose beads.
L-Glutathione reduced (GSH) is an antioxidant that helps to protect cells from reactive oxygen species such as free radicals and peroxides. By acting as an electron donor, glutathione reduces any disulfide bond formed within cytoplasmic proteins to cysteines.

Assay (CE) min. 97.5 %
MP 182 - 192 °C
[α] 20 °C/D (c=4 % in water) -15.5 ° to -17.5 °

References:
1. Review: Meister, A. & Anderson, M.E. (1983) Ann. Rev. Biochem. ***52,*** 711-60

Cat.No.	Size
23150.02	5 g
23150.03	25 g
23150.04	100 g

Glutathione Agarose Resin

(GST-Tag Purification)
HS 38220000

The resin permits rapid, mild and highly selective purification of GST fusion proteins with a one step procedure. The recovery rate is more than 95 % and the mild conditions retain the biological activity of the isolated proteins. Handling is easy and identical to standard protocols of other manufacturers, therefore there is no need to change established protocols. Suitable for isolation of small and large proteins tagged with GST in batch or column purifications.
Binding capacity: > 8 mg recombinant GST/ml gel.

Cat.No.	Size
42172.01	10 ml
42172.02	100 ml

Glycerin

see 23176 Glycerol from plant, page 49

Glycerol from plant Ph. Eur.

(Glycerin)
$C_3H_8O_3$ ♦ M_r 92.09 ♦ CAS [56-81-5]

EINECS 200-289-5 ♦ WGK 1L ♦ HS 29054500

Suitable for a wide range of applications:
- Supplement in cell culture
- Stabilizer of proteins
- Component of sample buffer for polyacrylamide gel electrophoresis
- Aid in casting gradient gels

In addition, glycerol can be used in pharmaceutical formulations and as an emollient, solvent, sweetening agent.

Assay (titr.)	min. 98.0 % - 101.0 %
Heavy metals (Pb)	max. 5 ppm
Refractive index	1.470 - 1.475

Cat.No.	Size
23176.01	1 L

Glycerol from plant 87 % Ph. Eur.

$C_3H_8O_3$ ♦ M_r 92.09 ♦ CAS [56-81-5]

HS 29054500

Suitable for a wide range of applications:
- Supplement in cell culture
- Stabilizer of proteins
- Component of sample buffer for polyacrylamide gel electrophoresis
- Aid in casting gradient gels

In addition, glycerol can be used in pharmaceutical formulations and as an emollient, solvent, sweetening agent.

Refractive index	1.449 - 1.455

Cat.No.	Size
23177.01	1 L

Glycerol from plant 87 % molecular biology grade

$C_3H_8O_3$ ♦ M_r 92.09 ♦ CAS [56-81-5]

HS 29054500

DNase/RNase not detected.

Suitable for a wide range of applications:
- Supplement in cell culture
- Stabilizer of proteins
- Component of sample buffer for polyacrylamide gel electrophoresis
- Aid in casting gradient gels

In addition, glycerol can be used in pharmaceutical formulations and as an emollient, solvent, sweetening agent.

Refractive index	1.449 – 1.455

Cat.No.	Size
39788.01	1 L

Glycerol gelatin for microscopy

DANGER
H314-H341 ♦ WGK 1 ♦ HS 38220000

Aqueous mounting medium for microscopy and histology. Glycerol alters the hygroscopic property of gelatin and its permeability to water vapour.

Cat.No.	Size
23310.02	100 g

Glycerol gelatin after Kaiser phenol-free

HS 38220000

Universal aqueous slide mounting medium for microscopy. The recipe is according to the well-known Kaiser's glycerol jelly. However, it does not contain phenol, making it a safe, non-hazardous alternative.
Contains ca. 40 % glycerol and ca. 7 % gelatin.

Refractive index	1.44 – 1.48

Cat.No.	Size
23311.01	50 ml

Glycid ether 100 for electron microscopy

(1,2,3-Propanetriol glycidyl ether; GE 100; Epon 812)
M_r average 306 ♦ CAS [90529-77-4]

WARNING
H302-H315-H319-H341-H361 ♦ EINECS 292-011-4 ♦ WGK 1L ♦ HS 39073000

Mixture of aliphatic di- and triepoxides. Epoxy resin of low viscosity (ca. 100-200 mPa·s at 25 °C) (1). Combination with ARALDITE® (2). With D.E.R.® 736 (3).

Epoxide equivalent	135 - 154 g/mol
Viscosity (25 °C)	100 - 200 mPa·s
Chlorine (total)	10 - 13 %

ARALDITE = registered trademark of Huntsman Advanced Materials Europe
D.E.R. = registered trademark of Dow Chemical Company

References:
1. Luft, J.H. (1961) J. Biophys. Biochem. Cytol. ***9,*** 409-14
2. Coulter, H.D. (1967) J. Ultrastruct. Res. ***20,*** 346-55
3. Kushida, H. (1967) J. Electron Microsc. ***16,*** 278-80

Cat.No.	Size
21045.01	100 ml
21045.02	500 ml

Glycine electrophoresis grade

(Aminoacetic acid; Glycocoll)
$C_2H_5NO_2$ ♦ M_r 75.07 ♦ CAS [56-40-6]

EINECS 200-272-2 ♦ HS 29224985

Glycine is a component of Tris-Glycine (cat. no. 42530) and Tris-Glycine-SDS Running Buffers (cat. no. 42529) for polyacrylamide gel electrophoresis and as well of Towbin Buffer for Western Blots (cat. no. 42558).
Tested for use in electrode buffers for PAGE and in transfer buffers for Western Blots.

Assay (titr.)	98.5 – 101.0 %
Heavy metals (Pb)	max. 10 ppm
Chloride (Cl)	max. 70 ppm

Cat.No.	Size
23391.01	500 g
23391.02	1 kg
23391.03	5 kg

Glycine analytical grade, Ph. Eur., USP

(Aminoacetic acid; Glycocoll)
$C_2H_5NO_2$ ♦ M_r 75.07 ♦ CAS [56-40-6]

EINECS 200-272-2 ♦ WGK 1L ♦ HS 29224985

Assay (titr.)	98.5 - 101.0 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
23390.02	500 g
23390.04	1 kg
23390.03	5 kg

Glycogen from oyster research grade

$(C_6H_{10}O_5)n$ ♦ CAS [9005-79-2]

EINECS 232-683-8 ♦ WGK - ♦ HS 39139000
Storage temperature +2 °C to +8 °C

Substrate for glycogenphosphorylase (EC 2.4.1.1). Suitable as a carrier molecule for DNA and RNA in precipitation reactions, replacing tRNA and sonicated DNA.

References:
1. Sutherland, E.W. (1955) Methods Enzymol. ***1,*** 215-22

Cat.No.	Size
23550.02	5 g

Glycogen from oyster, solution 20 mg/ml
molecular biology grade

HS 38220000
Storage temperature -15 °C to -25 °C

DNase/RNase not detected. 20 mg/ml solution in redistilled water. Suitable as a carrier molecule for DNA and RNA, replacing tRNA and sonicated DNA.

References:
1. Sambrook, J. & Russell, D.W. (2001) Molecular Cloning, 3rd Edition, Cold Spring Harbor Laboratory Press (p 5.20)

Cat.No.	Size
39766.01	1 ml
39766.02	10 x 1 ml

Gravity Blotter

HS 90272000

The SERVA Gravity Blotter has been developed by SERVA to blot film-based IEF and SDS PAGE gels at high efficiency. When performing horizontal gel electrophoresis the gel layer has to be stabilized by a backing, either by glass or plastic. This backing has to be removed before transferring the separated proteins onto a membrane by tank or semy-dry blotting. During this laborious process, the gel could get damaged. The use of the Gravity Blotter renders separating gel and film backing unneccessary. The results are comparable to tank or semi-dry transfer methods.
The unit consists of a base plate with a transfer area of 14 x 29 cm. The pressure is provided by aluminum plates that are placed on top of the blotting stack. Transfer time is 4 h or overnight.

Cat.No.	Size
GB-14X29	1 piece

GSH

see 23150 L-Glutathione (reduced form), page 48

Guanidine·HCl molecular biology grade

CH_5N_3·HCl ♦ M_r 95.5 ♦ CAS [50-01-1]

WARNING
H302-H315-H319 ♦ EG-Index 607-148-00-0 ♦ EINECS 200-002-3 ♦ WGK 1L ♦ HS 29252900

Guanidine hydrochloride is a strong chaotropic reagent for denaturation and subsequent renaturation of proteins. It can solubilize insoluble or denatured proteins such as inclusion bodies. It is used in RNA isolation to dissociate nucleoproteins and inhibit RNase.
DNase/RNase not detected.

Assay	min. 99.5 %
A 1 cm/10 % in water	
260 nm	max. 0.03
280 nm	max. 0.015

Cat.No.	Size
39558.02	500 g

Guanidine·HCl research grade

(Aminomethanamidine)
CH_5N_3·HCl ♦ M_r 95.5 ♦ CAS [50-01-1]

WARNING
H302-H315-H319 ♦ EG-Index 607-148-00-0 ♦ EINECS 200-002-3 ♦ WGK 1L ♦ HS 29252900

Guanidine hydrochloride is a strong chaotropic reagent for denaturation and subsequent renaturation of proteins. It can solubilize insoluble or denatured proteins such as inclusion bodies. It is used in RNA isolation to dissociate nucleoproteins and inhibit RNase.

Assay	min. 99.0 %
pH (6 M in water 20 °C)	4.5 - 7.0

Cat.No.	Size
24205.02	1 kg

Guanidine·thiocyanate molecular biology grade

CH_5N_3·HSCN ♦ M_r 118.2 ♦ CAS [593-84-0]

DANGER
H302-H312-H314-H332-H412 ♦ EG-Index 615-004-00-3 ♦ GGVSE/ADR 8 III UN1759 ♦ IATA 8 III UN1759 ♦ EINECS 209-812-1 ♦ WGK 2L ♦ HS 29252900

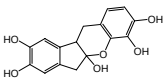
DNase/RNase not detected. Suitable for the isolation of RNA.

Assay (grav.)	min. 98.5 %
MP	115 - 122 °C
A 1 cm/3 M in water	
280 nm	max. 0.50
300 nm	max. 0.10

Cat.No.	Size
39577.01	250 g
39577.02	500 g

Hematoxylin pure

(Natural Black)
C.I.75290 ♦ $C_{16}H_{14}O_6$ ♦ M_r 302.29 ♦ CAS [517-28-2]



WARNING
H315-H319-H335 ♦ EINECS 208-237-3 ♦ WGK 2L ♦ HS 32030010

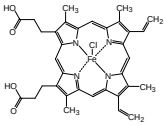
Hematoxylin or Haematoxylin, a basophilic dye extracted from the tree *Haematoxylum campechianum*, is often used together with eosin (H&E stain) in histological study under light microscope. The dye is also used alone as a nuclear counterstain in immunohistochemistry. To produce a functional dye, hematoxylin is oxidized to hematein and subsequently is bound to one of several metal ions including aluminum (Al+3), iron (Fe+3) and chromium (Cr+3). Tested for use in Delafield-Heidenhain staining.

λ max. 0.004 % in acetonitrile	293 ±3 nm
Indicator	pH 5.0 - 6.0

Cat.No.	Size
24420.01	25 g
24420.02	100 g

Hemin cryst. research grade

(Hemin chloride; Chlorohemin; Ferriprotoporphrin IX·chloride)
$C_{34}H_{32}FeN_4O_4$·Cl ♦ M_r 652.0 ♦ CAS [16009-13-5]



EINECS 240-140-1 ♦ HS 32030090
Storage temperature +2 °C to +8 °C

Highly purified standard substance; specially developed for determination of hemoglobin (1). As labelling catalyst for luminescence immunoassay (2).

Assay (photometric) min. 98.0 %

References:
1. Wolf, H.U. et al. (1984) Clin. Chim. Acta ***136,*** 95-104
2. Ikariyama, Y. & Suzuki, S. (1982) Anal. Chem. ***54,*** 1126-9

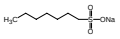
Cat.No.	Size
24410.01	1 g
24410.02	5 g

HEPES

see 25245 N-(2-Hydroxyethyl)piperazine-N'-2-ethane sulfonic acid, page 58

1-Heptanesulfonic acid·Na-salt research grade

$C_7H_{15}O_3S·Na$ ♦ M_r 202.25 ♦ CAS [22767-50-6]



WARNING
H315-H319-H335 ♦ EINECS 245-210-5 ♦ WGK 1 ♦ HS 29041000

Ion pairing reagent used in the HPLC analysis of proteins and peptides and capillary electrophoresis analysis of peptides.

Assay (titr.)	min. 98.0 %
A 1 cm/220 nm/0.005 M in water	max. 0.08

Cat.No.	Size
24604.02	25 g

Heteroauxins

see 26181 Indole-3-acetic acid, page 60

1 ml HiFliQ Co-NTA FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Cobalt-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Super Co-NTA Agarose
Base matrix: 7.5 % cross-linked agarose
Co-NTA capacity: 40 - 50 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16") UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42287.01	1 piece

1 ml HiFliQ Co-NTA FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Cobalt-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Super Co-NTA Agarose
Base matrix: 7.5 % cross-linked agarose
Co-NTA capacity: 40 - 50 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16") UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42288.01	5 pieces

5 ml HiFliQ Co-NTA FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Cobalt-NTA Agaros Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Super Co-NTA Agarose
Base matrix: 7.5 % cross-linked agarose
Co-NTA capacity: 40 - 50 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min (5 ml)
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16") UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42289.01	1 piece

5 ml HiFliQ Co-NTA FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Cobalt-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Super Co-NTA Agarose
Base matrix: 7.5 % cross-linked agarose
Co-NTA capacity: 40 - 50 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16") UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42290.01	5 pieces

1 ml HiFliQ GST FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Glutathione coupled agarose resin for rapid affinity purification of Glutathione S-Transferase (GST)-tagged proteins under native conditions.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Glutathione Agarose
Base matrix: Agarose
GST capacity: 10 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16") UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42291.01	1 piece

1 ml HiFliQ GST FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Glutathione coupled agarose resin for rapid affinity purification of Glutathione S-Transferase (GST)-tagged proteins under native conditions.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Glutathione Agarose
Base matrix: Agarose
GST capacity: 10 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42292.01	5 pieces

5 ml HiFliQ GST FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Glutathione coupled agarose resin for rapid affinity purification of Glutathione S-Transferase (GST)-tagged proteins under native conditions.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Glutathione Agarose
Base matrix: Agarose
GST capacity: 10 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42293.01	1 piece

5 ml HiFliQ GST FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Glutathione coupled agarose resin for rapid affinity purification of Glutathione S-Transferase (GST) -tagged proteins under native conditions.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLC's), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Glutathione Agarose
Base matrix: Agarose
GST capacity: 10 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max.pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42294.01	5 pieces

1 ml HiFliQ Ni-NTA FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Nickel-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Super Ni-NTA Agarose
Base matrix: 7.5 % cross-linked agarose
Ni-NTA capacity: 50 - 75 mg (per 1 ml resin)
Flow rate: 1 ml/min (1 ml)
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42283.01	1 piece

1 ml HiFliQ Ni-NTA FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Nickel-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Super Ni-NTA Agarose
Base matrix: 7.5 % cross-linked agarose
Ni-NTA capacity: 50 - 75 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42284.01	5 pieces

5 ml HiFliQ Ni-NTA FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Nickel-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Super Ni-NTA Agarose
Base matrix: 7.5 % cross-linked agarose
Ni-NTA capacity: 50 - 75 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42285.01	1 piece

5 ml HiFliQ Ni-NTA FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with pre-charged Nickel-NTA Agarose Resin for affinity purification of poly-histidine tagged recombinant proteins by immobilized metal ion affinity chromatography (IMAC).
Available in 1 ml and 5 ml HiFliQ column sizes with high binding capacity and minimal ion leakage. Compatible with all common chromatography HPLC and FPLC instruments, and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Super Ni-NTA Agarose
Base matrix: 7.5% cross-linked agarose
Ni-NTA capacity: 50 - 75 mg (per 1 ml resin)
Flow rate: 1 ml/min (1 ml), 1-5 ml/min (5 ml)
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42286.01	5 pieces

1 ml HiFliQ Protein A FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein A Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Protein A Agarose FF
Base matrix: Agarose
Protein A capacity (hIgG): 30 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42295.01	1 piece

1 ml HiFliQ Protein A FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein A Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Protein A Agarose FF
Base matrix: Agarose
Protein A capacity (hIgG): 30 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42296.01	5 pieces

5 ml HiFliQ Protein A FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein A Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Protein A Agarose FF
Base matrix: Agarose
Protein A capacity (hIgG): 30 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42297.01	1 piece

5 ml HiFliQ Protein A FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein A Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Protein A Agarose FF
Base matrix: Agarose
Protein A capacity (hIgG): 30 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42298.01	5 pieces

1 ml HiFliQ Protein G FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein G Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Protein G Agarose FF
Base matrix: Agarose
Protein G capacity (hIgG): 20 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42299.01	1 piece

1 ml HiFliQ Protein G FPLC Columns

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein G Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 1 ml resin
Column construction: Polypropylene
Resin: Protein G Agarose FF
Base matrix: Agarose
Protein G capacity (hIgG): 20 mg (per 1 ml resin)
Flow rate: 1 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 15 x 80 mm

Cat.No.	Size
42300.01	5 pieces

5 ml HiFliQ Protein G FPLC Column

HS 38220000

Protein Ark HiFliQ columns pre-packed and ready to use with Protein G Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Protein G Agarose FF
Base matrix: Agarose
Protein G capacity (hIgG): 20 mg (per 1 ml resin)
Flow rate: 1 - 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42301.01	1 piece

5 ml HiFliQ Protein G FPLC Columns

HS 38220000

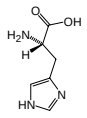
Protein Ark HiFliQ columns pre-packed and ready to use with Protein G Agarose FF resin for rapid antibody purification from serum, ascites and tissue culture supernatants.
Available in 1 ml and 5 ml HiFliQ column sizes with high ligand density and high binding capacity. Compatible with all common chromatography HPLC and FPLC instruments (including ÄKTA™ FPLCs), and low pressure pumps and syringes using an appropriate adaptor.

Specifications
Column volume: 5 ml resin
Column construction: Polypropylene
Resin: Protein G Agarose FF
Base matrix: Agarose
Protein G capacity (hIgG): 20 mg (per 1 ml resin)
Flow rate: 1- 5 ml/min
Max. pressure: 0.5 MPa (72 psi)
Universal 10.32 (1/16'') UNF threads: Inlet Female/Outlet Male
Dimensions: 23 x 80 mm

Cat.No.	Size
42302.01	5 pieces

L-Histidine base research grade, Ph. Eur., USP

(His; L-2-Amino-3-(4-imidazolyl)-propionic acid)
$C_6H_9N_3O_2$ ♦ M_r 155.16 ♦ CAS [71-00-1]



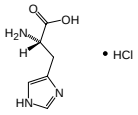
EINECS 200-745-3 ♦ WGK 1L ♦ HS 29224985

Assay (titr.) 98.5 - 101.0 %
Heavy metals (Pb) max. 10 ppm

Cat.No.	Size
24820.02	100 g

L-Histidine·HCl monohydrate research grade, Ph. Eur.

(His-HCl; L-2-Amino-3-(4-imidazolyl)propionic acid hydrochloride)
$C_6H_9N_3O_2 \cdot HCl \cdot H_2O$ ♦ M_r 209.6 ♦ CAS [5934-29-2]



WGK 1L ♦ HS 29332990

Assay (titr.) 98.5 - 101.0 %.
Heavy metals (Pb) max. 10 ppm

Cat.No.	Size
24842.02	100 g

HPE Blotting Kit for large format gels

For HPE™ BlotGels.

Storage Temperature: +15 °C to +30 °C

Cat.No.	Size
42670.01	1 kit

HPE Blotting Kit for medium-sized gels

For HPE™ BlotGels.

Storage Temperature: +15 °C to +30 °C

Cat.No.	Size
42669.01	1 kit

HPE™ BlueHorizon™

HS 90272000

The HPE™ BlueHorizon™ is a flatbed system for horizontal electrophoresis using precast gels, self-cast gels and gel strips. Main applications are isoelectric focusing (IEF) including the run of IPG strips (like SERVA IPG *Blue*Strips) in 2D PAGE and SDS PAGE, but also the separation of nucleic acids in polyacrylamide gels.

The unit consists of a stable metal housing and an integrated drawer. The drawer holds the cooling plate with connectors for the external refrigeration system (e.g. the circulatory refrigerator bath HPE™ Cooling Unit, cat. no. HPE-CU1). The cooling plate is made from special ceramic material (maximum gel size 260 x 205 mm) for efficient cooling. It provides even heat dissipation, allowing to run gels at a temperature as low as 4 °C. This is particularly important when applying high voltage to thin isoelectric focusing (IEF) gels.

The electrode lid comes with one pair of platinum electrodes. Three fixed electrode positions allow the usage of a wide range of different sized gels. Optional, an electrode lid with a triple electrode arrangement for bi-directional gel run is available. The easy-to-clean housing allows placing the power supply on top of the unit saving valuable space on your bench.

- High capacity cooling plate suitable for high voltage applications like IEF etc.
- Fixed platinum electrode distances of 270 mm, 195 mm and 115 mm
- For all kinds of film-backed flatbed gels, self or precast
- Samples are easy to load
- Economical reagent usage (minimizing running buffer volume)
- Smart design - made in Germany

HPE™ BlueHorizon™ – a highly sophisticated instrument to run horizontal gels under reliable temperature control.

Cat.No.	Size
HPE-BH	1 piece

HPE™ BlueHorizon™ Bidirectional, with 3 Electrode Lid

HS 90272000

The HPE™ BlueHorizon™ is a flatbed system for horizontal electrophoresis using precast gels, self-cast gels and gel strips. Main applications are isoelectric focusing (IEF) including the run of IPG strips (like SERVA IPG BlueStrips), 2D PAGE and SDS PAGE, HCP analysis and separation of recombinant proteins/antibodies, but also the separation of nucleic acids in polyacrylamide gels.

The unit consists of a stable metal housing and an integrated drawer. The drawer holds the cooling plate with connectors for the external refrigeration system (e.g. the circulatory refrigerator bath HPE™ Cooling Unit, cat. no. HPE-CU1). The cooling plate is made from special ceramic material (maximum gel size 260 x 205 mm) for efficient cooling. It provides even heat dissipation, allowing to run gels at a temperature as low as 4 °C. This is particularly important when applying high voltage to thin isoelectric focusing (IEF) gels.

The electrode lid comes with a triple electrode arrangement for bi-directional gel runs. The easy-to-clean housing allows placing the power supply on top of the unit saving valuable space on your bench.

- High capacity cooling plate suitable for high voltage applications like IEF etc.
- Fixed platinum electrode distances of 270 mm, 195 mm and 115 mm
- For all kinds of film-backed flatbed gels, self or precast
- Samples are easy to load
- Economical reagent usage (minimizing running buffer volume)
- Smart design - made in Germany

HPE™ BlueHorizon™ – a highly sophisticated instrument to run horizontal gels under reliable temperature control.

Cat.No.	Size
HPE-BH3E	1 piece

HPE™ BlueHorizon™ Tridirectional, with 4 Electrode Lid

HS 90272000

Instead of the standard electrode lid, this version of the HPE™ BlueHorizon™ comprises a special lid with a four electrode arrangement for tri-directional gel runs.
HPE™ BlueHorizon™ – a highly sophisticated instrument to run horizontal gels under reliable temperature control.

Cat.No.	Size
HPE-BH4E	1 piece

HPE™ BlueHorizon™ C

HS 90272000

HPE™ BlueHorizon™ C includes:
- HPE™ BlueHorizon™ flatbed chamber (cat. no. HPE-BH)
- HPE™ Cooling Unit (cat. no. HPE-CU1)

Cat.No.	Size
HPE-BHC	1 piece

HPE™ BlueHorizon™ Double Deck

HS 90272000

The HPE™ BlueHorizon™ Double Deck consists of two single HPE™ BlueHorizon™ flatbed chambers that can be easily combined to a mini tower to double the gel running capacity. To operate the system, both units can be connected to one chiller (cat. no. HPE-CU) and to one power supply (cat. no. BP-3000-HPE).

Cat.No.	Size
HPE-BHD	1 piece

HPE™ BlueHorizon™ PS

HS 90272000

HPE™ BlueHorizon™ PS includes:
- HPE™ BlueHorizon™ flatbed chamber (cat. no. HPE-BH)
- BluePower™ 3000 Volt Power Supply (cat. no. BP-3000-HPE)

Cat.No.	Size
HPE-BHP	1 piece

HPE™ BlueHorizon™ Quadra Deck

HS 90272000

The HPE™ BlueHorizon™ Quadra Deck consists of four single HPE™ BlueHorizon™ flatbed chambers that can be easily combined to a mini tower to quadruple the gel running capacity. To operate the system, all four units can be connected to one chiller (cat. no. HPE-CU) and to one power supply (cat. no. BP-3000-HPE).

Cat.No.	Size
HPE-BHQ	1 piece

HPE™ BlueHorizon™ System

HS 90272000

HPE™ BlueHorizon™ System includes:

- HPE™ BlueHorizon™ flatbed chamber (cat. no. HPE-BH)
- BluePower™ 3000 Volt Power Supply (cat. no. BP-3000-HPE)
- HPE™ Cooling Unit (cat. no. HPE-CU1)

Cat.No.	Size
HPE-BHSYS	1 piece

HPE™ BlueHorizon™ Triple Deck

HS 90272000

The HPE™ BlueHorizon™ Triple Deck consists of three single HPE™ BlueHorizon™ flatbed chambers that can be easily combined to a mini tower to triple the gel running capacity. To operate the system, all three units can be connected to one chiller (cat. no. HPE-CU) and to one power supply (cat. no. BP-3000-HPE).

Cat.No.	Size
HPE-BHT	1 piece

HPE™ BlueTower

HS 90272000

The HPE™ BlueTower allows electrophoretical separations of up to four horizontal flatbed gels at the same time. It is used for 1D and 2D electrophoresis gels. For more information please refer to „HPE™ Blue Tower System“ (cat. no. HPE-TS2).

Cat.No.	Size
HPE-T02	1 piece

HPE™ BlueTower System

HS 90272000

The HPE™ BlueTower System allows electrophoretical separations in up to four horizontal gels at the same time. It is used for 1D and 2D electrophoresis gels, where multiple runs are an important demand. Structurally, the HPE™ BlueTower consists of four horizontal electrophoresis chambers, which are built as movable drawers into a metal housing.
The HPE™ BlueTower and the HPE™ gels have been developed together as a system to achieve better results than with conventional SDS polyacrylamide gel electrophoresis (PAGE) technology. The precast HPE™ gels, which are less than 1 mm thin and film-backed, are protected from light during the run. No glass plates are used. They are placed on aluminum oxide ceramic cooling plates, which ensure very efficient heat dissipation and therefore straight electrophoretic migration in each gel.

Content:
HPE™ BlueTower (HPE-T02), HPE™ BluePower™ 3000V Supply (BP-3000-HPE) and HPE™ Cooling Unit (HPE-CU1).

Cat.No.	Size
HPE-TS2	1 piece

HPE™ Cooling Unit

HS 90272000

Cooling unit for HPE™ BlueTower and HPE™ BlueHorizon™ flatbed systems.

Cat.No.	Size
HPE-CU1	1 piece

2D HPE™ Double BlotGel NF 12.5 % Kit

Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid.
The gels can be easily blotted because the gels are non-covalently bound to the supporting film so that it can be removed from the gel after electrophoresis. This non-fluorescent (NF) supporting film also provides best results for fluorescent staining and labelling.
Suitable for running 2x 11 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™.

Multiphor = trademark of GE Healthcare

Cat.No.	Size
43430.01	1 kit

2D HPE™ Double Gel 10 - 15 % Kit Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 2x 11 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on standard backing providing best results for silver and Coomassie® staining.
Not suitable for fluorescent applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43309.01	1 kit

2D HPE™ Double Gel 12.5 % Kit Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 2x 11 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on standard backing providing best results for silver and Coomassie® staining.
Not suitable for fluorescent applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43308.01	1 kit

2D HPE™ Double Gel NF 12.5 % Kit Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 2x 11 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on NF backing providing best results for fluorescent staining and labelling. Can also be used for for silver and Coomassie® staining but for best results use gels on standard backing.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43302.01	1 kit

2D HPE™ Double Gel NF 10 - 15 % Kit

Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 2x 11 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on NF backing providing best results for fluorescent staining and labelling. Can also be used for for silver and Coomassie® staining but for best results use gels on standard backing.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43303.01	1 kit

HPE™ Electrode Lid

HS 90272000

Replacement Lid for HPE™ Tower, HPE™ BlueHorizon.

Cat.No.	Size
HPE-RL	1 piece

HPE™ Electrode Mounting Kit

HS 90272000

Cat.No.	Size
HPE-EMK	1 kit

2D HPE™ Large BlotGel NF 10-15 % Kit

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid.
The gels can be easily blotted because the gels are non-covalently bound to the supporting film so that it can be removed from the gel after electrophoresis. This non-fluorescent (NF) supporting film also provides best results for fluorescent staining and labelling.
Suitable for running 1x 24 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43435.01	1 kit

2D HPE™ Large BlotGel NF 12.5 % Kit

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid.
The gels can be easily blotted because the gels are non-covalently bound to the supporting film so that it can be removed from the gel after electrophoresis. This non-fluorescent (NF) supporting film also provides best results for fluorescent staining and labelling.
Suitable for running 1x 24 cm IPG strips plus 1 marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43432.01	1 kit

2D HPE™ Large Gel 10 - 15 % Kit Size: 255 x 200 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 1x 24 cm IPG strip plus one marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on standard backing providing best results for silver and Coomassie® staining.
Not suitable for fluorescent applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43311.01	1 kit

2D HPE™ Large Gel 12.5 % Kit Size: 255 x 200 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 1x 24 cm IPG strip plus one marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on standard backing providing best results for silver and Coomassie® staining.
Not suitable for fluorescent applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43310.01	1 kit

2D HPE™ Large Gel NF 10 - 15 % Kit Size: 255 x 200 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 1x 24 cm IPG strip plus one marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on NF backing providing best results for fluorescent staining and labelling. Also suitable for silver and Coomassie® staining but for best results use gels on standard backing.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43305.01	1 kit

2D HPE™ Large Gel NF 12.5 % Kit Size: 255 x 200 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 1x 24 cm IPG strip plus one marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on NF backing providing best results for fluorescent staining and labelling. Also suitable for silver and Coomassie® staining but for best results use gels on standard backing.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43304.01	1 kit

HPE™ Pool

HS 90272000

Pool for rehydrating SERVA flatbed gels up to 260 x 125 mm.

Cat.No.	Size
HPE-A32	1 piece

2D HPE™ Triple BlotGel NF 12.5 % Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid.
The gels can be easily blotted because the gels are non-covalently bound to the supporting film so that it can be removed from the gel after electrophoresis. This non-fluorescent (NF) supporting film also provides best results for fluorescent staining and labelling.
Suitable for running 3x 7 cm IPG strips plus 2 marker lane by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43429.01	1 kit

2D HPE™ Triple Gel 10 - 15 % Kit Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 3x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on standard backing providing best results for silver and Coomassie® staining. Not suitable for fluorescent applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43307.01	1 kit

2D HPE™ Triple Gel 12.5 % Kit Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 3x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on standard backing providing best results for silver and Coomassie® staining. Not suitable for fluorescent applications.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43306.01	1 kit

2D HPE™ Triple Gel NF 10 - 15 % Kit Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers FS wicks and cooling contact fluid. Suitable for running 3x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on NF backing providing best results for fluorescent staining and labelling. Can also be used for silver and Coomassie® staining but for best results use gels on standard backings.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43301.01	1 kit

2D HPE™ Triple Gel NF 12.5 % Kit Size: 250 x 110 x 0.65 mm

HS 38220000

Kit comprising 4 plastic-backed gels, including running and equilibration buffers, FS wicks and cooling contact fluid. Suitable for running 3x 7 cm IPG strips plus 2 marker lanes by horizontal electrophoresis on HPE™ BlueTower, HPE™ BlueHorizon or Multiphor II™. Gels are on NF backing providing best results for fluorescent staining and labelling. Can also be used for silver and Coomassie® staining but for best results use gels on standard backings.

Coomassie = registered trademark of ICI Ltd.
Multiphor = trademark of GE Healthcare

Cat.No.	Size
43300.01	1 kit

Hyaluronidase from ovine testes min. 1000 U/mg lyophil.

EC 3.2.1.35 ♦ M_r ca. 55 000 ♦ CAS [37326-33-3]

DANGER
H334 ♦ EINECS 253-464-3 ♦ WGK 1 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

Glucosidase which cleaves endo-N-acetlyhexosaminic bonds in hyaluronic acid and chondroitin sulfate A and C to tetrasaccharide residues. As hyaluronic acid and chondroitin sulfate are often found in connective tissues, Hyaluronidase is often used in conjunction with collagenase to dissociate the extracellular matrix between cells of animal tissue, in order to release viable cells for use in tissue culture.
It may also be used to clarify synovial fluids in order to make cell counts possible.
Unit definition: 1 U produces the same turbidity reduction in a mixture of hyaluronic acid and albumin as 1 I.U. (International Unit) of a standard hyaluronidase preparation (1).

References:
1. Mathews, M.B. (1966) Methods Enzymol. ***8,*** 654-62

Cat.No.	Size
25118.01	50 mg
25118.02	500 mg

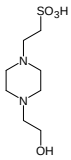
2-Hydroxy-5-sulfobenzoic acid

see 35706 5-Sulfosalicylic acid, page 131

N-(2-Hydroxyethyl)piperazine-N'-2-ethane sulfonic acid

analytical grade, for cell culture

(HEPES)
$C_8H_{18}N_2O_4S$ ♦ M_r 238.3 ♦ CAS [7365-45-9]



EINECS 230-907-9 ♦ WGK 1L ♦ HS 29335995

pKa 20 = 7.55. Buffering substance (1). Tested for use in tissue culture (2). Physical parameters (3).

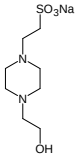
Assay (titr.)	min. 99.0 %
A 1 cm/10 % in water	
260 nm	max. 0.1
280 nm	max. 0.08
Heavy metals (Pb)	max. 10 ppm
pH 10 % in water	5.0 - 6.5

References:
1. Good, N.E. et al. (1966) Biochemistry ***5,*** 467-77
2. Shipman jr., Ch. (1969) Proc. Soc. Exp. Biol. Med.***130,*** 305-10
3. Vega, C.A. & Bates, R.G. (1976) Anal. Chem. ***48,***1293-6

Cat.No.	Size
25245.03	100 g
25245.04	250 g
25245.05	1 kg
25245.06	5 kg

N-(2-Hydroxyethyl)piperazine-N'-2-ethane sulfonic acid ·Na-salt analytical grade

(HEPES·Na-salt)
$C_8H_{17}N_2O_4S{\cdot}Na$ ♦ M_r 260.3 ♦ CAS [75277-39-3]



EINECS 278-169-7 ♦ WGK 1 ♦ HS 29335995

N-(2-Hydroxyethyl) piperazine-N'-2-ethane sulfonic acid sodium salt (HEPES sodium salt) is a buffering substance for biochemistry and molecular biology. At biological pH, HEPES is zwitterionic, and is effective as a buffer at pH 6.8 to 8.2 (pKa 20 = 7.55). Thus this Good's buffer is widely used in biological solutions and as a component in cell culture media.

Assay (titr.)	min. 99.0 %
A 1 cm/10 % in water	
260 nm	max. 0.15
280 nm	max. 0.1
pH 10 % in water	9.5 - 11.5

Cat.No.	Size
25249.04	1 kg

3-Hydroxypropionic acid lactone

see 33672 β-Propiolactone, page 84

6-Hydroxypurine riboside

see 26250 Inosine, page 60

Hygromycin B research grade

CAS [31282-04-9]

DANGER
H300-H310-H315-H318-H330-H335 ♦ GGVSE/
ADR 6.1 I UN3462 ♦ IATA 6.1 I UN3462 ♦ WGK 2 ♦
HS 29419000
Storage temperature +2 °C to +8 °C

Aminoglycoside antibiotic that inhibits growth of procaryotic micro-organisms (bacteria), eukaryotic microorganisms (yeasts) and mammalian cells. Inhibits protein synthesis at translocation step; causes misreading of mRNA. A gene from *E. coli* encoding resistance to hygromycin B can be isolated and cloned by recombinant DNA technology. It is useful for the identification or selection of recombinant clones in various cell types.

Assay (HPLC)	min. 90.0 %
Potency (on a dry basis)	≥ 900 u/mg

Cat.No.	Size
25965.01	250 mg
25965.03	1 g

Hypoxanthine-9-β-D-ribofuranoside

see 26250 Inosine, page 60

IAA

see 26181 Indole-3-acetic acid, page 60

IBA

see 26172 Indole-3-butyric acid, page 60

IBMX

see 26445 3-Isobutyl-1-methylxanthine, page 61

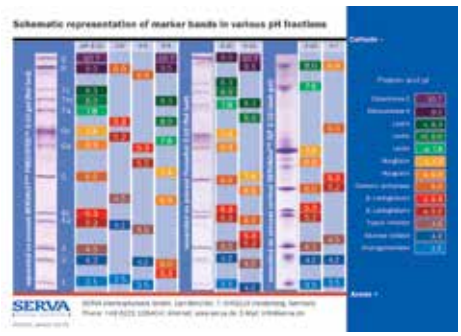
IDA-Agarose Resins

see 42141 SERVA Ni-IDA HD Agarose Resin, page 107

IEF Marker 3-10, Liquid Mix

(Protein Standards (Markers) for IEF)
HS 38220000
Storage temperature -15 °C to -25 °C

Ready-to-use protein marker for isoelectric focusing.
Contains 9 proteins of the pI range 3.5 to 10.7 (13 isoforms).
Buffer composition:
0.01 % bromophenol blue (Na-salt), 0.01 % methyl red (Na-salt), 10 % glycerol.



Amyloglucosidase	pI 3.5
Glucose oxidase	pI 4.2
Trypsin inhibitor	pI 4.5
β-Lactoglobulin	pI 5.15/5.3
Carboanhydrase	pI 6.0
Myoglobin horse	pI 6.9/7.35
Lentil lectin	pI 7.75/8.0/8.3
Ribonuclease A	pI 9.45
Cytochrome C	pI 10.65

Cat.No.	Size
39212.01	500 µl

IEF Sample Buffer (2x) sterile filtered

HS 38220000
Storage temperature +2 °C to +8 °C

SERVA IEF sample buffer is suited to all vertical and horizontal IEF applications and systems. The sample buffer is supplied as 2x concentrate. It is sterile filtered, beneficial to long shelf life and absence of contaminants. Simply mix the liquid sample 1:1 with the buffer or dissolve a solid sample in the buffer first and dilute with water 1:1. When performing IEF in the presence of urea mix the sample with the buffer and add solid urea or use concentrated urea solution.
The buffer contains 4 % SERVALYT™ 4 - 9 T, 30 % glycerol and 0.005 % phenol red.

Cat.No.	Size
42537.01	20 ml

IEF Starter Kit

DANGER
H314-H334-H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

The kit contains:
3 SERVALYT™ PRECOTES™ 125 x 125 mm with PAG layer 300 µm

Electrode wicks	20
Applicator strips	1
Electrode buffer solutions	2 x 10 ml
Heat exchange liquid	10 ml
SERVA Blue W	100 mg
SERVA Violet 17	100 mg
IEF marker 3-10 SERVA Liquid Mix	60 µl

Cat.No.	Size
39060.01	1 kit

IgG Sample Diluter IEF

HS 38220000

Dilution for CSF analysis on IEF gels.

Cat.No.	Size
43336.01	100 ml

Imidazole research grade

$C_3H_4N_2$ ♦ M_r 68.08 ♦ CAS [288-32-4]

DANGER
H301-H314-H361d ♦ GGVSE/
ADR 8 III UN2923 ♦ IATA 8 III UN2923 ♦
EINECS 206-019-2 ♦ WGK 1L ♦ HS 29332990

For preparation of buffers in the pH range of 6.2 - 7.8 (25 °C)
Imidazol is used for the elution of His-tagged recombinant proteins in immobilized metal-affinity chromatography (IMAC), as a chelator for the binding of various divalent cations and in reverse staining of SDS-PAGE protein gels.

Assay (GC)	min. 99.0 %

Cat.No.	Size
26081.01	100 g
26081.02	500 g

Immobilon™-P-membrane

Pore size 0.45 µm, format: 26.5 cm x 3.75 m

HS 39219090

Immobilon™-P-membranes developed by Millipore Corp. are specially designed for Western Blot techniques. The membranes, made of polyvinylidenfluoride (PVDF), show excellent mechanical stability and are compatible with most staining procedures including immunological methods.

Cat.No.	Size
42581.01	1 roll

Indole-3-acetic acid research grade

(IAA; Heteroauxins; Auxins)
$C_{10}H_9NO_2$ ♦ M_r 175.2 ♦ CAS [87-51-4]

EINECS 201-748-2 ♦ HS 29339980
Storage temperature +2 °C to +8 °C

Indole-3-acetic acid (IAA), a natural phytohormone (plant auxin) is a highly effective plant growth regulator, formed by a variety of fungi, including yeast. 3-Indoleacetic acid induces plant cell elongation and division causing uncontrolled growth. The auxin is a signaling molecule involved in plant organogenesis and growth control. IAA is a supplement in media such as Murashige and Skoog media and Gamborg's B5 media.

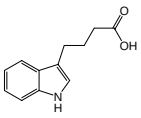
Assay (titr.)	97.0 - 103.0 %
MP	165 - 169 °C

References:
1. Graffeo, A. et al. (1976) Clin. Chem. ***22***, 184-7

Cat.No.	Size
26181.01	5 g

Indole-3-butyric acid research grade

(4-(3-Indolyl)butyric acid; IBA; Auxins)
$C_{12}H_{13}NO_2$ ♦ M_r 203.24 ♦ CAS [133-32-4]



DANGER
H301-H315-H319-H335 ♦ GGVSE/
ADR 6.1 III UN2811 ♦ IATA 6.1 III UN2811 ♦
EINECS 205-101-5 ♦ WGK 2 ♦ HS 29339980
Storage temperature +2 °C to +8 °C

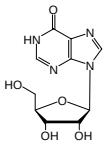
Indole-3-butyric acid (IBA) is a naturally occurring phytohormone (plant auxin) acting as a plant growth regulator. IBA promotes root formation in cuttings but does not affect ethylene levels. Sensitive to light, store in the dark.

Assay (titr.)	min. 99.0 %
Water (KF)	max. 1.0 %

Cat.No.	Size
26172.04	100 g

Inosine research grade

(Hypoxanthine-9-β-D-ribofuranoside; 6-Hydroxypurine riboside)
$C_{10}H_{12}N_4O_5$ ♦ M_r 268.23 ♦ CAS [58-63-9]



EINECS 200-390-4 ♦ WGK 1 ♦ HS 29349990

Inosine is able to base pair with deoxythymidine, deoxyadenosine and deoxyguanosine. Incorporation of inosine in place of guanine modulates translational events. It regulates biological processes through adenosine receptors.

Assay (HPLC)	min. 98.0 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
26250.03	100 g

myo-Inositol research grade, USP/NF

(meso-Inositol; i-Inositol; 1,2,3,5/4,6-Hexahydroxycyclohexane)
$C_6H_{12}O_6$ ♦ M_r 180.2 ♦ CAS [87-89-8]

EINECS 201-781-2 ♦ WGK 1 ♦ HS 29061390

Component of media for bacteriology and cell, insect, and plant culture.
Stereoisomeric form of inositol, which acts as a second messenger in the signal pathways of cells.

Assay (HPLC)	min. 97.0 %
MP	224 - 227 °C

Cat.No.	Size
26310.01	100 g

meso-Inositol

see 26310 *myo*-Inositol, page 60

Insulin, recombinant human, min. 27.5 IU/mg Ph. Eur., USP.

M_r ca. 5800 ♦ CAS [11061-68-0]

HS 29371200
Storage temperature -15 °C to -25 °C

Identical in structure and function to the native human sequence. Essential for long-term growth of various cell lines. Stimulates the proliferation of cells and supports carbohydrate metabolism. Absence of insulin in the medium may result in disturbances of cell morphology and growth rate. Recommended concentration for use in serum free media is 1 – 10 µg/ml.

Assay	95.0 - 105.0 %
Bacterial endotoxins (IU/mg)	max. 10

Cat.No.	Size
26360.01	50 mg

INT

see 26840 Iodonitrotetrazolium chloride, page 60

Iodoacetamide research grade

C_2H_4INO ♦ M_r 185.0 ♦ CAS [144-48-9]

WARNING
H315-H319-H335 ♦ EINECS 205-630-1 ♦ WGK 2 ♦
HS 29241900
Storage temperature +2 °C to +8 °C

Alkylating agent for use in protein sample preparation applications. For carboxymethylation of proteins.

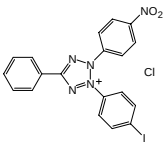
Assay (HPLC)	min. 99.0 %

References:
1. Gurd, F.R. (1967) Methods Enzymol. ***11,*** 532-41

Cat.No.	Size
26710.01	5 g
26710.02	25 g

Iodonitrotetrazolium chloride research grade

(INT; 2-(4-Iodophenyl)-3-(4-nitrophenyl)-5-phenyl-2H-tetrazolium·chloride; Iodonitrotetrazolium violet)
$C_{19}H_{13}ClIN_5O_2$ ♦ M_r 505.72 ♦ CAS [146-68-9]



WARNING
H302-H312-H332 ♦ EINECS 205-676-2 ♦
WGK 1 ♦ HS 29339980

For LDH detection (1).
For colorimetric measurement of enzymatic hydrolysis of terminal galactose from GM_1 ganglioside (2).

Assay (titr.)	min. 99.0 %

References:
1. Babson, A.L. & Babson, S.R. (1973) Clin. Chem. ***19,*** 766-9
2. Urbanowski, J.C. et al. (1980) Anal. Biochem. ***105,*** 461-7

Cat.No.	Size
26840.02	2,5 g
26840.03	10 g

Ion Exchange Media

see 41706 SERDOLIT® Chelite® P, page 99

Ion Exchange Media

see 41030 DOWEX® 1X2 (50-100 mesh), page 35

IPG Chamber Cleaner

HS 34022090

IPG Chamber Cleaner is a pH neutral, non-toxic, highly active cleaning material. It has been specifically formulated for effectively removing protein deposits from the IPG strip holder, lids, etc. of a first dimension isoelectric focusing unit, e.g. IEF100.

Cat.No.	Size
43399.01	1 L

IPG Strips

see 43001 SERVA IPG *Blue*Strip 3-10 / 7 cm, page 104

IPTG

see 26600 Isopropyl-β-D-thiogalactopyranoside, page 61

Isoamyl alcohol molecular biology grade

(3-Methyl-1-butanol; Isopentylalcohol)
$C_5H_{12}O$ ♦ M_r 88.15 ♦ CAS [123-51-3]

WARNING
H226-H332-H335 ♦ MAK/TRK 370 mg/m³; 100 ml/m³ ♦ EG-Index 603-006-00-7 ♦ GGVSE/ADR 3 III UN1105 ♦ IATA 3 III UN1105 ♦ EINECS 204-633-5 ♦ WGK 1L ♦ HS 29051490

DNase, RNase, Proteases not detected. Suitable for use in nucleic acid purification. Isoamyl alcohol prevents foaming during nucleic acid extraction with Phenol:Chloroform:Isoamyl alcohol.

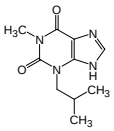
Assay (total isomers, GC)	min. 99.0 %
Water (KF)	max. 0.3 %

References:
1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (E.3-E.4)

Cat.No.	Size
39557.01	250 ml

3-Isobutyl-1-methylxanthine research grade

(IBMX)
$C_{10}H_{14}N_4O_2$ ♦ M_r 222.2 ♦ CAS [28822-58-4]



EINECS 249-259-3 ♦ HS 29335995

3-Isobutyl-1-methylxanthine (IBMX) is one of the most potent and nonspecific inhibitors of cyclic nucleotide phosphodiesterases (cAMP- and cGMP PDE). The increase in cAMP level because of phosphodiesterase inhibition by IBMX activates protein kinase A (PKA), leading to decreased proliferation, increased differentiation, and induction of apoptosis. The inhibitor induces calcium release from intracellular stores in sensory neurons.
IBMX has been used as a culture medium supplement for inducing adipogenic differentiation, for 3T3-L1 preadipocyte differentiation and in the differentiation of mesenchymal stem cells (MSC).
Soluble in ethanol.

Assay (NMR)	min. 99.0 %
MP	200 - 203 °C

References:
1. Ashcroft, S.J.H. et al. (1973) FEBS Lett. ***20,*** 263-6

Cat.No.	Size
26445.02	500 mg

Isopropanol molecular biology grade

(2-Propanol)
C_3H_8O ♦ M_r 60.09 ♦ CAS [67-63-0]

DANGER
H225-H319-H336 ♦ MAK/TRK 500 mg/m³; 200 ml/m³ ♦ EG-Index 603-117-00-0 ♦ GGVSE/ADR 3 II UN1219 ♦ IATA 3 II UN1219 ♦ EINECS 200-661-7 ♦ WGK 1L ♦ HS 29051200

Suitable for the precipitation of nucleic acids. When compared to ethanol 50 % less is required for nucleic acid precipitation.

Purity (GC)	min. 99.7 %
Water	max. 0.1 %

1 L in glass bottle = 39559.02
1 L in plastic bottle = 39559.03

References:
1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning,
2. Cold Spring Harbor Laboratory Press (E.13-E.14)

Cat.No.	Size
39559.01	250 ml
39559.02	1 L
39559.03	1 L

Isopropanol analytical grade

(2-Propanol)
C_3H_8O ♦ M_r 60.1 ♦ CAS [67-63-0]

DANGER
H225-H319-H336 ♦ EG-Index 603-117-00-0 ♦ GGVSE/ADR 3 II UN1219 ♦ IATA 3 II UN1219 ♦ EINECS 200-661-7 ♦ WGK 1 L ♦ HS 29051200

Polar organic solvent commonly used in chemistry and molecular biology laboratories. It will dissolve a wide range of chemicals and evaporates quickly.

Assay (GC)	min. 99.7 %
Density (20 °C)	0.784 - 0.788 g/ml
Water	max. 0.1 %
Free acid	max. 20 ppm
Residue on evaporation	max. 10 ppm

Cat.No.	Size
45629.01	1 L
45629.02	2,5 L

Isopropanol for LC-MS

CAS [67-63-0]

DANGER
H225-H319-H336 ♦ EG-Index 603-117-00-0 ♦ GGVSE/ADR 3 II UN1219 ♦ IATA 3 II UN1219 ♦ EINECS 200-661-7 ♦ WGK 1 L ♦ HS 29051200

Special grade for excellent performance in liquid chromatography-mass spectrometry (LC-MS).

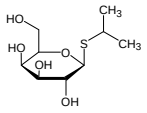
Assay (GC)	min. 99.95 %
Refractive index (20 °C)	1.375 - 1.379
Acidity	≤ 0.0010 %
Alkalinity	≤ 0.0005 %
Water (KF)	≤ 200 ppm
Residue on evaporation	≤ 2 ppm
Transmittance	
220 nm	min. 64.0 %
230 nm	min. 80.0 %
260 nm	min. 98.5 %
HPLC gradient	
254 nm	max. 2 mAU
Test LC-MS TIC (50 – 2000 m/z) ES I(+)	
Sensitive impurities (reserpine)	max. 100 ppb
Metal Compounds	max. 50 ppb

Microfiltered, 0.1 µm

Cat.No.	Size
45636.01	1 L
45636.02	2,5 L

Isopropyl-β-D-thiogalactopyranoside research grade, dioxane-free

(IPTG; Isopropyl-1-thio-β-D-galactopyranoside)
$C_9H_{18}O_5S$ ♦ M_r 238.3 ♦ CAS [367-93-1]



EINECS 206-703-0 ♦ WGK 1 ♦ HS 29389090
Storage temperature -15 °C to -25 °C

Analog of galactose, not split by β-galactosidase.
Inducer of the lac operon in bacteria. Used in conjunction with X-Gal (5-bromo-4-chloro-indolyl-β-D-galactoside, cat. no. 15243) for detection of lac⁺ colonies. Dissolve in H_20 to 200 mg/ml, sterilize by filtration and store in aliquots at -20 °C. For detection of transformants, use in final concentration of 0.1 mM.

Assay (HPLC)	min. 98.0 %
[α] 20 °C/D (c=1 in water)	-28.5 ° to -34.5 °
1,4-Dioxane	not detected

References:
1. Donner, J. et al. (1982) J. Biol. Chem. ***257,*** 14826-9
2. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (4.33, 4.37-4.38, 1.8-1.9, 17.12-17.13, B.11)
3. Ed. Ausubel et al. (1994) Current Protocols in Molecular Biology, Massachusetts General Hospital & Harvard Medical School (1.4.3, 16.2.3, 1.15.1)

Cat.No.	Size
26600.03	1 g
26600.04	10 g
26600.06	50 g

Kanamycin sulfate research grade

CAS [25389-94-0]

DANGER
H360D ♦ EG-Index 246-933-9 ♦ HS 29419000
Storage temperature +2 °C to +8 °C

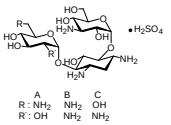
Aminoglycoside antibiotic, inhibitor of protein biosynthesis. It is active against gram negative and gram positive bacteria. Main component is Kanamycin A. Suitable for prevention of bacterial contamination in cell culture.
Activity: min. 750 U/mg. Easily soluble in water.
Stock solution: 10 mg/ml in H_2O, working solution: 100 µg/ml

References:
1. Pestka, S. (1971) Annu. Rev. Microbiol. ***25***, 487-562
2. Lancini, G. & Parenti, F. (1982) Antibiotics: Springer, New York
3. Vetting, M.W. et al. (2002) Nature Struct. Biol. ***9,*** 653-8
4. Lambert, C. et al. (2003) Environm. Biol. ***5***, 127-32
5. Kataoka, T. et al. (2004) Plant Physiol. ***136***, 4198-204

Cat.No.	Size
26897.01	5 g
26897.02	25 g
26897.03	100 g

Kanamycin sulfate molecular biology grade, Ph. Eur.

$C_{18}H_{36}N_4O_{11}\cdot H_2SO_4\cdot H_2O$ ♦ M_r 600.6 ♦ CAS [25389-94-0]



DANGER
H360D ♦ EINECS 246-933-9 ♦ WGK 1 ♦
HS 29419000
Storage temperature +2 °C to +8 °C

Aminoglycoside antibiotic, inhibitor of protein biosynthesis. It is active against gram negative and gram positive bacteria. Main component is Kanamycin A. Suitable for prevention of bacterial contamination in cell culture. Used in molecular biology for the selection of resistant bacteria.
Activity: min. 750 U/mg. Easily soluble in water.
Stock solution: 10 mg/ml in H_2O, working solution: 100 µg/ml.

References:
1. Pestka, S. (1971) Annu. Rev. Microbiol. ***25,*** 487-562
2. Mays, D. et al. (1976) J. Chromatogr. ***120,*** 193-202
3. Cox, D. et al. (1977) in: Sammes, P.G. (ed.) Topics in Antibiotic Chemistry, vol. ***3***, Chichester, Horwood pp. 1-90
4. Lancini, G. & Parenti, F. (1982) Antibiotics: Springer, New York
5. Nakashima, K. et al. (1999) . J. Biol. Chem. ***274***, 27786-92
6. Vetting, M.W. et al. (2002) Nature Struct. Biol. ***9***, 653-8
7. Lambert, C. et al. (2003) Environm. Biol. ***5,*** 127-32
8. Kataoka, T. et al. (2004) Plant Physiol. ***136***, 4198-204

Cat.No.	Size
26899.02	5 g
26899.03	25 g

Kerosene, low odor

CAS [8008-20-6]

DANGER
H304 ♦ EG-Index 649-404-00-4 ♦ EINECS 232-366-4 ♦ WGK 1 ♦
HS 27101925

Suitable as cooling fluid in horizontal electrophoresis.

Cat.No.	Size
26945.01	1 L

LabImage 1D L-320 Gel Analysis

HS 90279050

LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.
LabImage 1D L-320 is the basic verison for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, Rf, area, band volume, background reduction, creation of own MW or pI standard as well as multiple standards for one gel and has many different report and export functions.
LabImage 1D Gel Analysis Software - your tool in 1D gel analysis

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- As single and network license available

This version is for academic only. For corporate usage please ask for L-320-C

Cat.No.	Size
LI-320-A	1 piece

LabImage 1D L-320 Gel Analysis

HS 90279050

LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.
LabImage 1D L-320 is the basic verison for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, Rf, area, band volume, background reduction, creation of own MW or pI standard as well as multiple standards for one gel and has many different report and export functions.
LabImage 1D Gel Analysis Software - your tool in 1D gel analysis

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- As single and network license available

This version is for corporate only. For academic usage please ask for L-320-A

Cat.No.	Size
LI-320-C	1 piece

LabImage 1D L-340 Gel Analysis

HS 90279050

LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.
LabImage 1D L-340 is the advanced verison for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, Rf, area, band volume, background reduction, creation of own MW or pI standard as well as multiple standards for one gel and has many different report and export functions. Moreover it includes grimace correction, Rf calibration and correction of multiple standards, can normalize not only single band but group of bands and has an additional export report to RFT and XLS. An additional module allows FDA 21 CFR Part 11 compliance.
LabImage 1D Gel Analysis Software - your tool in 1D gel analysis

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- Compliant with FDA21 CFR part 11 (module required)
- As single and network license available

This version is for academic only. For corporate usage please ask for L-340-C

Cat.No.	Size
LI-340-A	1 piece

LabImage 1D L-340 Gel Analysis

HS 90279050

LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.
LabImage 1D L-340 is the advanced verison for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, Rf, area, band volume, background reduction, creation of own MW or pI standard as well as multiple standards for one gel and has many different report and export functions. Moreover it includes grimace correction, Rf calibration and correction of multiple standards, can normalize not only single band but group of bands and has an additional export report to RFT and XLS. An additional module allows FDA 21 CFR Part 11 compliance.
LabImage 1D Gel Analysis Software - your tool in 1D gel analysis

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- Compliant with FDA21 CFR part 11 (module required)
- As single and network license available

This version is for corporate only. For academic usage please ask for L-340-A

Cat.No.	Size
LI-340-C	1 piece

LabImage 1D L-360-A Gel Analysis

HS 90279050

LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.
LabImage 1D L-360 is the advanced version for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, Rf, area, band volume, background reduction, creation of own MW or pI standard as well as multiple standards for one gel and has many different report and export functions. Moreover it includes grimace correction, Rf calibration and correction of multiple standards, can normalize not only single band but group of bands and has an additional export report to RFT and XLS. An additional module allows FDA 21 CFR Part 11 compliance. As these functions are shared with the L-340, additionally the L-360 version could detect multiple regions of interest (ROIs) and is fully automatable (create and edit macros for automation, apply macros to single image or image stack).
LabImage 1D Gel Analysis Software - your tool in 1D gel analysis.

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- Compliant with FDA21 CFR part 11 (module required)
- As single and network license available

This version is for academic only. For corporate usage please ask for L-360-C

Cat.No.	Size
L-360-A	1 piece

LabImage 1D L-360-C Gel Analysis

HS 90279050

LabImage 1D gel analysis (LabImage 1D) is a flexible solution with strong image analysis algorithms, applicable also for DNA or protein testing and western blotting techniques. Due to its workflow-based concept, this application has become a prime example of software usability. Based on the latest technology, this application works with both Mac and the latest Windows versions and requires no special user training.
LabImage 1D L-360 is the advanced version for standard 1D analysis of protein and nucleic acid gels. It allows import of common image types or import of images from scanner or camera, automatic lane and band detection, manual lane and band correction, calculation of MW, Rf, area, band volume, background reduction, creation of own MW or pI standard as well as multiple standards for one gel and has many different report and export functions. Moreover it includes grimace correction, Rf calibration and correction of multiple standards, can normalize not only single band but group of bands and has an additional export report to RFT and XLS. An additional module allows FDA 21 CFR Part 11 compliance. As these functions are shared with the L-340, additionally the L-360 version could detect multiple regions of interest (ROIs) and is fully automatable (create and edit macros for automation, apply macros to single image or image stack).
LabImage 1D Gel Analysis Software - your tool in 1D gel analysis.

- Full 16 bit image processing
- Intuitive User Interface/Workflow
- Runs under Windows, Mac OS X, Linux
- Compliant with FDA21 CFR part 11 (module required)
- As single and network license available

This version is for corporate only. For academic usage please ask for L-360-A.

Cat.No.	Size
L-360-C	1 piece

Laemmli Buffer 10x, for SDS PAGE

HS 38220000

Running buffer for SDS PAGE. Supplied as 10 x concentrate. Contains 0.25 M Tris, 1.92 M glycine and 1 % SDS in aqueous solution.

Cat.No.	Size
42556.01	2 L
42556.04	10 L

Laemmli Sample Buffer 2x, for SDS PAGE

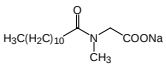
HS 38220000
Storage temperature +2 °C to +8 °C

Sample buffer for SDS PAGE. Supplied as 2x concentrate. Contains 126 mM Tris/Cl (pH 6.8), 20 % glycerol, 4 % SDS and 0.02 % bromophenol blue.

Cat.No.	Size
42526.01	20 ml
42526.02	5 x 20 ml

N-Lauroylsarcosine·Na-salt 30 % solution

(Sarkosyl NL-30; Oramix L30)
$C_{15}H_{28}NO_3Na$ ♦ M_r 293.4



DANGER
H315-H318 ♦ WGK 1 ♦ HS 38089490

Disinfectant useful in a wide range of solubilization and permeation applications from solubilization of membrane proteins to enhancement of skin permeability in transdermal applications.
Active substance 28.5 - 32.0 %.

pH (3 % in water) 7.5 - 8.5

Cat.No.	Size
27570.01	500 ml
27570.02	5 L

LB Agar (Lennox), powder 35 g for 1 liter medium

HS 38210000

For cultivation of *E. coli* in molecular biology.
10 g/l Tryptone
5 g/l Yeast extract
5 g/l NaCl
15 g/l Agar
For making 1 L liquid medium suspend 35 g in 900 ml distilled water, adjust the pH to 7.0 with approximately 0.2 ml of 5 N NaOH, fill up to a final volume of 1 L with deionized water and sterilize by autoclaving. Cool to 45 °C prior to dispensing into sterile petri dishes.

References:

1. Luria, S.E., et al., Virology ***12***, 348-390 (1960)
2. Miller, J.H., Experiments in Molecular Genetics, p. 433, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY 1972

Cat.No.	Size
48502.01	700 g

LB Medium (Lennox), powder 20 g for 1 liter medium

WGK 1 ♦ HS 38210000

For cultivation of *E. coli* in molecular biology.
10 g/l Tryptone
5 g/l Yeast extract
5 g/l NaCl
For making 1 L liquid medium suspend 20 g in 900 ml distilled water, adjust the pH to 7.0 with approximately 0.2 ml of 5 N NaOH, fill up to a final volume of 1 L with deionized water and sterilize by autoclaving.

References:

1. Luria, S.E., et al., Virology ***12***, 348-390 (1960)
2. Miller, J.H., Experiments in Molecular Genetics, p. 433, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY 1972

Cat.No.	Size
48501.01	500 g

Lectin from *Canavalia ensiformis* lyophil.

(Concanavalin A from jack bean)
M_r 110 000 ♦ CAS [11028-71-0]

DANGER
H317-H334 ♦ EINECS 234-258-2 ♦ WGK 1 ♦ HS 35040090
Storage temperature +2 °C to +8 °C

Mitogenic lectin purified from the jack bean, *C. ensiformis*, that selectively cross-links cell-surface glycoproteins and affects the initiation of cell agglutination, mitogenesis, and apoptosis. Concanavalin A (ConA) binds to D-glucose, D-mannose and sterically related sugars in glycoproteins, and glycolipids and has been used in affinity chromatography purifications of various glycoproteins and cellular structures (1).
It has potential anticancer effects due to mitogenic activity with lymphocytes and cancer cells (2). When administered, concanavalin A binds to glycoproteins of the cell membrane, inducing autophagy when it eventually enters the cell. Simultaneously, it triggers inflammation of tumorous cells, causing an immune response targeted against those cells. This simultaneous induction of immune response and autophagy makes it a potentially potent and novel cancer treatment. It is also used for studies of immune regulation across various cell types

Sugar specificity: D-glucose, D-mannose and sterically related sugars
Hemagglutination: Reference (3)

References:

1. Bessler, W. & Goldstein, I.J. (1973) FEBS Lett. ***34,*** 58-62
2. Lin, H. et al. (1975) Cancer Chemother. Rep. ***59,*** 319-26
3. Wang, J.L. et al. (1975) J. Biol. Chem. ***250,*** 1490-1502

Cat.No.	Size
27648.01	100 mg
27648.03	1 g

Lecithin from egg yolk pure

CAS [93685-90-6]

EINECS 297-639-2 ♦ HS 29232000
Storage temperature -15 °C to -25 °C

Phosphatidylcholine belongs to the class of glycerophospholipids and contains choline as the head-group. It is the major phospholipid found in eukaryotic organism.

Phosphatidyl choline	min. 70.0 %
Iodine number	min. 63 - 69
Peroxide value	max. 5

Cat.No.	Size
27608.01	25 g
27608.02	100 g
27608.03	500 g

Lecithin from soybean

(Vegetable lecithin)
HS 29232000
Storage temperature +2 °C to +8 °C

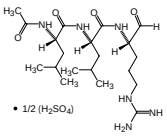
Phosphatidylcholine belongs to the class of glycerophospholipids and contains choline as the head-group. It is the major phospholipid found in eukaryotic organism.

Phosphatidyl choline	min. 17.0 - 25.0 %
Acetone insol. substances	min. 96.5 %
Toluol insoluble substances	max. 0.3 %

Cat.No.	Size
57556.01	100 g
57556.02	1 kg

Leupeptin

(Acetyl-L-leucyl-L-leucyl-L-argininal)
$C_{20}H_{38}N_6O_4 \cdot 1/2H_2SO_4$ ♦ M_r 475.6 ♦ CAS [103476-89-7]



WARNING
H302-H332 ♦ WGK 1 ♦ HS 29241900
Storage temperature -15 °C to -25 °C

Leupeptin, or N-acetyl-L-leucyl-L-leucyl-L-argininal, is a naturally occurring tripeptide and a reversible Inhibitor of serine and cysteine proteases. Competitively inhibits calpain, cathepsin B, kallikrein, papain, plasmin, and trypsin, but is little or non-inhibiting for pepsin, cathepsin A and D, chymotrypsin, and thrombin.
Leupeptin forms in the active site of serine proteases a covalent hemiacetal adduct between the aldehyde group of leupeptin and the hydroxyl group of a serine residue in the enzyme active site. Inhibition of cysteine proteases is achieved by forming a comparable bond between the electrophilic (aldehyde) carbon of leupeptin with the sulfur atom of a cysteine residue in the enzyme active site.
Due to its aldehyde groups, leupeptin may interfere with protein detection assays (e.g. Bradford).
Stock solution: 5 mg/ml (10 mM) in H_2O, ethanol, acetic acid and DMF (stabile at +4 °C for approx. 7 days and at -20 °C for approx. 6 months)
Working concentration: 1 - 100 µM (stabile only for few hours)

Assay (HPLC) (sum of tautomeric isomers)	min. 96.5 %

References:

1. Umezawa, H. (1976) Methods Enzymol. ***45,*** 678-83
2. Carlin, C. et al. (1994) J. Cell. Physiol. ***160,*** 427-34
3. Savory, P.J. & Rivett, A.J. (1993) Biochem. J. ***289,*** 45-8
4. Eto, I. & Bandy, M.D. (1990) Mol. Cell. Biochem. ***94,*** 19-36
5. Benistani, B. et al. (1994) Biochim. Biophys. Acta ***1223,*** 84-90

Cat.No.	Size
51867.02	10 mg
51867.03	50 mg

Lid with 3 Electrodes for Bi-Directional Electrophoresis

HS 90272000

Cat.No.	Size
HPE-3EL	1 piece

Lowry Assay Kit

DANGER
H314-H412 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

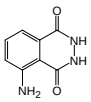
The assay bases on Lowry's method (1). It contains ready-to-use reagents and protein standard. The assay is fast and has a sensitivity of 50 µg protein/ml.
Sufficient for 250 2-ml assays.

References:
1. Lowry O. H., et al. (1951) J. Biol. Chem ***193***, 265 – 275

Cat.No.	Size
39236.01	250 tests

Luminol research grade

(3-Aminophthalhydrazine;
5-Amino-2,3-dihydro-1,4-phthalazinedione)
$C_8H_7N_3O_2$ ♦ M_r 177.2 ♦ CAS [521-31-3]



WARNING
H302-H332 ♦ EINECS 208-309-4 ♦ WGK 1 ♦ HS 29280090

Luminol is used as peroxidase reagent (1), for microdetermination of superoxide dismutase (2), and for chemiluminescence analysis of, for example, metal cations, blood, and glucococorticoids.

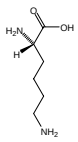
Assay (titr.) min. 95.0 %

References:
1. Freeman, T.M. & Seitz, W.R. (1978) Anal. Chem. ***50,*** 1242-6
2. Huu, T.P. et al. (1984) Anal. Biochem. ***142,*** 467-2
3. Roswell, D.F. & White, E.H. (1978) Methods Enzymol. ***57,*** 409-23
4. Leong, M.M. L. & Fox, G.R. (1990) Methods Enzymol. ***184,*** 442-51

Cat.No.	Size
28085.02	5 g

L-Lysine cryst. reseach grade

(Lys; L-2,6-Diaminohexanoic acid; 2,6-Diaminocaproic acid)
$C_6H_{14}N_2O_2 \cdot H_2O$ ♦ M_r 164.21 ♦ CAS [39665-12-8]



EINECS 200-294-2 ♦ WGK 1L ♦ HS 29224100
Storage temperature +2 °C to +8 °C

Essential amino acid used as a supplement in cell culture media, a substrate for enzymes and as a component of poly-lysine polymers, which facilitate the attachment of cells to plastic and glass surfaces.

Assay (titr.) min 98.0 %
Heavy metals (Pb) max. 10 ppm

Cat.No.	Size
28195.01	25 g
28195.02	100 g
28195.03	500 g

Lysozyme from chicken egg white min. 15 000 units/mg cryst.

(Muramidase; Mucopeptide-glycohydrolase; Mucopeptide N-acetyl-muramoylhydrolase)
EC 3.2.1.17 ♦ M_r ca. 14 400 ♦ CAS [12650-88-3]

DANGER
H334 ♦ EINECS 235-747-3 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

Crystalline powder in hydrochloride form. Lysozyme hydrolyzes the β 1 → 4 linkages of the murein between N-acetylmuramic acid and N-acetyl-D-glucosamin, and degrades the heteroglycan chain to disaccharides. This reaction leads to cell lysis in most gram positive bacteria. Lysis can be prevented if the reaction is performed in an isotonic sucrose medium. Under these assay conditions protoplasts are produced which no longer have a cell wall. In gram negative bacteria a compact lipopolysaccharide layer on the exposed murein sacculus efficiently shields them from lysozyme digestion. Only when the stabilizing Ca^{2+} ions are removed by treatment with e.g. EDTA, the murein becomes susceptible to lysozyme. Suitable for hydrolysis of bacterial cell walls and of proteoglycans (1, 2).

Unit definition: 1 unit catalyzes a decrease in absorption at 450 nm of 0.001 per minute at 25 °C, pH 6.24, in a suspension of *Micrococcus lysodeikticus* as substrate.

Isoelectric point: 10.5 - 11.0

Optimum pH: 9.2

References:
1. Imoto, T. et al. (1972) The Enzymes VII, 3rd Ed. (Boyer, P.D., ed.) Acad. Press N.Y. 666-70
2. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (1.22, 1.34, 1.36, 1.38, 17.38, 1.29, B.17)

Cat.No.	Size
28263.01	2,5 g
28263.02	10 g

Lysyl Endopeptidase®, MS approved

EC 3.4.21.50 ♦ CAS [72561-05-08]

EINECS 276-716-4 ♦ HS 35079090
Storage temperature -15 °C to -25 °C ❄❄

Approved quality for use with in-gel digestion and mass spectrometric analysis.

Lysyl Endopeptidase, originally isolated from the soil bacterium discovered by Masaki, et al. cleaves specifically the peptide bonds at the carboxy-terminal side of Lysine residues and S-aminoethylcysteine residues with a high degree of specificity, making it a valuable tool for protein sequence analysis and for proteome research. An added feature of Lysyl Endopeptidase is its ability to retain complete activity after incubation in 4M urea or in 0.1 % SDS solution for up to 6 hours at 30 °C.

Cat.No.	Size
20987.01	20 µg

Macerozyme R-10 from *Rhizopus sp.* lyophil.

(»Macerating Enzyme«; »Cell Separating Enzyme«)
EC 3.2.1.15 ♦ CAS [9032-75-1]

DANGER
H334 ♦ EINECS 232-885-6 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

Macerozyme R-10 is suitable for the isolation of plant cells, and can be used in combination with cellulase »Onozuka R-10« (cat. no. 16419) (1, 2) and with cellulase »Onozuka RS« (cat. no. 16420).

Activities: Pectinase ca. 0.5 U/mg
Unit definition: 1 U catalyzes the liberation of 1 µmole of reducing groups from pectic acid per minute at 25 °C, pH 4.5 calculated as galacturonic acid. Reducing groups determined with alkaline copper reagent (2).
Hemicellulase: ca. 0.25 U/mg
Unit definition: 1 U is equivalent to 1 µmole of reducing groups released from beechwood xylan per hour at 37 °C, pH 5.5, calculated as xylose.
Cellulase: ca. 0.1 U/mg
Unit definition: 1 U catalyzes the liberation of 1 µmole glucose from sodium carboxymethyl cellulose per minute at 40 °C, pH 4.5; glucose determined with alkaline copper reagent (3).
pH optimum: 3.5 - 7.0
Temperature optimum: 40 - 50 °C.

References:
1. Yamada, Y. et al. (1972) Agr. Biol. Chem. ***36,*** 1055-9
2. Barraclough, R. & Ellis, R.J. (1979) Eur. J. Biochem. ***94,*** 165-77
3. Okada, G. (1988) Methods Enzymol. Vol. ***160,*** 259-63

Cat.No.	Size
28302.02	2,5 g
28302.03	10 g

Macrogol

see 33136 Polyethylene glycol 4000, page 81

Magnesium chloride·6H$_2$O molecular biology grade

$MgCl_2 \cdot 6H_2O$ ♦ M_r 203.3 ♦ CAS [7791-18-6]

HS 28273100

Magnesium chloride is used as a source of magnesium ions in various molecular biology applications like PCR reactions and for the preparation of competent cells for transformation. It is an essential co-factor in many enzymes, including DNase, some restriction enzymes, and Ribonuclease H.

DNase/RNase not detected.

Assay (titr., hydrate)	98.0 - 101.0 %
Heavy metals (Pb)	max. 0.001 %

Cat.No.	Size
39771.01	500 g

Magnesium chloride, solution 1 M molecular biology grade

HS 38220000

Magnesium chloride is used as a source of magnesium ions in various molecular biology applications like PCR reactions and for the preparation of competent cells for transformation. It is an essential co-factor in many enzymes, including DNase, some restriction enzymes, and Ribonuclease H. DNase/RNase not detected.

Composition:
$MgCl_2 \cdot 6H_2O$ (cat. no. 39771) 203.30 g/l

Cat.No.	Size
39772.01	100 ml
39772.02	500 ml

Magnesium sulfate heptahydrate molecular biology grade

$MgSO_4 \cdot 7H_2O$ ♦ M_r 246.48 ♦ CAS [10034-99-8]

EG-Index 231-298-2 ♦ WGK 1 ♦ HS 28332100

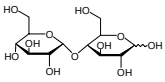
Magnesium sulfate is an essential co-factor in many enzymes, e.g. DNase, and a source of magnesium ions in culture media for plant cells and microorganisms.
DNase/RNase not detected.

Assay (titr.)	min. 99.5 %
Heavy metals (as Pb):	max. 0.001 %
Chloride (Cl)	max. 0.0005 %

Cat.No.	Size
39773.01	100 g
39773.02	500 g

D-Maltose research grade

(Maltobiose; 4-O-α-D-Glucopyranosyl-D-glucopyranose)
$C_{12}H_{22}O_{11} \cdot H_2O$ ♦ M_r 360.32 ♦ CAS [6363-53-7]



EINECS 200-716-5 ♦ WGK 1 ♦ HS 17029010

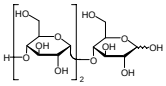
Used as a substrate for enzymes like maltases, transferases, ATPases, phosphorylases and to study maltose-binding proteins and disaccharide transport systems. It is as well a media supplement for culturing *E. coli* and yeast.

Assay (HPLC)	min. 92.0 %
[α] 20 °C/D (c=5 % in water)	135 ° - 137 °
Heavy metals (Pb)	max. 5 ppm

Cat.No.	Size
28390.01	50 g
28390.02	250 g

Maltotriose pure

$C_{18}H_{32}O_{16}$ ♦ M_r 504.44 ♦ CAS [1109-28-0]



EINECS 214-174-2 ♦ WGK 1 ♦ HS 29400000

Inducer of the maltose regulon of *E. coli*

Assay (HPLC) min. 90.0 %

Cat.No.	Size
28395.02	1 g

Mammalian Membrane Protein Extraction Kit

HS 38220000
Storage temperature +2 °C to +8 °C

The Mammalian Membrane Protein Extraction Kit provides a fast and efficient method to extract membrane proteins from mammalian cells and tissues. Native proteins can be obtained within 70 minutes without ultracentrifugation. Up to 90 % efficiency for membrane proteins which have at least 1 – 2 transmembrane domains. The extracted proteins are suitable for SDS PAGE, Western Blot, ELISA, and other functional assays.

Cat.No.	Size
39242.01	1 kit

Mammalian Nuclear and Cytoplasmic Protein Extraction Kit

HS 38220000
Storage temperature +2 °C to +8 °C

The Mammalian Nuclear and Cytoplasmic Protein Extraction Kit provides a fast and efficient method to extract nuclear and cytoplasmic proteins from mammalian cells and tissues. Native proteins can be obtained within 80 minutes without ultracentrifugation. The extracted proteins are suitable for SDS PAGE, Western Blot, ELISA, enzyme-activity assays, immunoprecipitation and other functional assays.

Cat.No.	Size
39243.01	1 kit

Mammalian Total Protein Extraction Kit

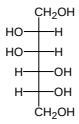
HS 38220000
Storage temperature -15 °C to -25 °C

The Mammalian Total Protein Extraction Kit provides a fast and efficient method to extract total proteins (cytoplasmic, membrane and nuclear proteins) from mammalian cells and tissues without ultracentrifugation. The extracted proteins are suitable for SDS PAGE, Western Blot, ELISA, and other functional assays.

Cat.No.	Size
39241.01	1 kit

D-Mannitol analytical grade, Ph. Eur.

$C_6H_{14}O_6$ ♦ M_r 182.2 ♦ CAS [69-65-8]
EINECS 200-711-8 ♦ WGK 1 ♦ HS 29054300

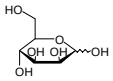


Assay (HPLC)	98.0 - 102.0 %
Reducing sugars	max. 0.2 %

Cat.No.	Size	EUR
28410.03	1 kg	66,00

D-Mannose research grade

(Carubinose; Seminose)
$C_6H_{12}O_6$ ♦ M_r 180.2 ♦ CAS [3458-28-4]
HS 29400000



For biochemistry, microbiology and cell culture.

Assay (HPLC)	min. 99.7 %
MP	128 - 134 °C

Cat.No.	Size
28460.02	50 g

MEMBRA-CEL® dialysis tubing, MWCO 3500

RC, diameter 16 mm
HS 39173200

Packed dry , made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Nominal dry flat width	25 mm
Nominal dry diameter	16 mm
Approx. filling volume	2.0 ml/cm
Nominal dry wall thickness	25 µm

Cat.No.	Size
44310.01	5 m
44310.02	30 m

MEMBRA-CEL® dialysis tubing, MWCO 3500

RC, diameter 22 mm
HS 39173200

Packed dry , made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Nominal dry flat width	34 mm
Nominal dry diameter	22 mm
Approx. filling volume	3.4 ml/cm
Nominal dry wall thickness	25 µm

Cat.No.	Size
44311.01	5 m
44311.02	30 m

MEMBRA-CEL® dialysis tubing, MWCO 7000

RC, diameter 16 mm
HS 39173200

Packed dry , made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Nominal dry flat width	25 mm
Nominal dry diameter	16 mm
Approx. filling volume	2.0 ml/cm
Nominal dry wall thickness	28 µm

Cat.No.	Size
44313.01	5 m
44313.02	30 m

MEMBRA-CEL® dialysis tubing, MWCO 7000

RC, diameter 22 mm
HS 39173200

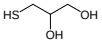
Packed dry , made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Nominal dry flat width	34 mm
Nominal dry diameter	22 mm
Approx. filling volume	3.4 ml/cm
Nominal dry wall thickness	30 µm

Cat.No.	Size
44314.01	5 m
44314.02	30 m

3-Mercapto-1,2-propanediol

(Thioglycerol)
$C_3H_8O_2S$ ♦ M_r 108.16 ♦ CAS [96-27-5]



DANGER
H302-H311-H315-H319-H332-H335 ♦ GGVSE/ADR 6.1 III UN2810 ♦ IATA 6.1 III UN2810 ♦ EINECS 202-495-0 ♦ WGK 3L ♦ HS 29309099

Filled under argon.

Assay (GC) min. 99.0 %

Cat.No.	Size
28637.01	50 ml

2-Mercaptoethanol electrophoresis grade

(Monothioethylene glycol)
C_2H_6OS ♦ M_r 78.13 ♦ CAS [60-24-2]

DANGER
H301-H310-H315-H317-H318-H331-H373-H410 ♦ GGVSE/ADR 6.1 II UN2966 ♦ IATA 6.1 II UN2966 ♦ EINECS 200-464-6 ♦ WGK 3L ♦ HS 29309099
Storage temperature +2 °C to +8 °C

Suitable for reducing protein disulfide bonds prior to polyacrylamide gel electrophoresis. Tested for use in sample buffers for SDS PAGE.

Assay (titr.) min. 99.0 %

Cat.No.	Size
28626.01	50 ml

2-Mercaptoethanol

(Monothioethylene glycol)

C_2H_6OS ♦ M_r 78.13 ♦ CAS [60-24-2]

DANGER
H301-H310-H315-H317-H318-H331-H373-H410 ♦ GGVSE/ADR 6.1 II UN2966 ♦ IATA 6.1 II UN2966 ♦ EINECS 200-464-6 ♦ WGK 3L ♦ HS 29309099
Storage temperature +2 °C to +8 °C

Used as a reducing agent in organic reactions and for retarding oxidation of biological compounds in solution.

Assay (titr.) min. 99.0 %

Cat.No.	Size
28625.01	50 ml
28625.02	500 ml

2-Mercaptoethanol molecular biology grade

(Monothioethylene glycol)

C_2H_6OS ♦ M_r 78.13 ♦ CAS [60-24-2]

DANGER
H301-H310-H315-H317-H318-H331-H373-H410 ♦ GGVSE/ADR 6.1 II UN2966 ♦ IATA 6.1 II UN2966 ♦ EINECS 200-464-6 ♦ WGK 3L ♦ HS 29309099
Storage temperature +2 °C to +8 °C

Used as a reducing agent in organic reactions and for retarding oxidation of biological compounds in solution.
DNase/RNase not detected.

Assay (titr.) min. 99.0 %

Cat.No.	Size
39563.01	50 ml

MES

see 29834 Morpholinoethane sulfonic acid, page 71

Metal Chelate Buffer Pack, includes 1 Buffer A and 1 Buffer B

HS 38220000

Contents:
250 ml 5 x PBS Buffer A
150 ml 1 x Imidazole Buffer B

Cat.No.	Size
42277.01	1 kit

Metal Chelate Midi Bulk Pack MC Plugs

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 24 x 1.6 ml Ni-IMAC columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 50 ml centrifuge tubes
Min. number of purifications: 48 purifications (2 uses per column)
Typical capacity/preparation: 10 - 15 mg 6 x His-tagged protein

Cat.No.	Size
42274.01	24 pieces

Metal Chelate Midi Kit - 8 MC Plugs

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 8 x 1.6 ml Ni-IMAC columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 50 ml centrifuge tubes
Min. number of purifications: 16 purifications (2 uses per column)
Typical capacity/preparation: 10 - 15 mg 6 x His-tagged protein
Vivaspin 20 ultrafiltration concentrators: 8
Buffers: 5 x PBS Buffer A, 1 x Imidazole Buffer B

Cat.No.	Size
42272.01	1 kit

Metal Chelate Midi Pack MC Plugs

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 8 x 1.6 ml Ni-IMAC columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 50 ml centrifuge tubes
Min. number of purifications: 16 purifications (2 uses per column)
Typical capacity/preparation: 10 - 15 mg 6 x His-tagged protein
Vivaspin 20 ultrafiltration concentrators: None
Buffers: 5 x PBS Buffer A, 1 x Imidazole Buffer B

Cat.No.	Size
42273.01	8 pieces

Metal Chelate Mini Bulk Pack Mini MC Plugs

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 72 x 0.23 ml Ni-IMAC columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microfuge tubes
Min. number of purifications: 144 purifications (2 uses per column)
Typical capacity/preparation: 1 mg 6 x His-tagged protein

Cat.No.	Size
42271.01	72 pieces

Metal Chelate Mini Kit - 24 Mini MC Plugs

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 24 x 0.23 ml Ni-IMAC columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microfuge tubes
Min. number of purifications: 48 purifications (2 uses per column)
Typical capacity/preparation: 1 mg 6 x His-tagged protein
Vivaspin 500 ultrafiltration concentrators: 24
Buffers: 5 x PBS Buffer A, 1 x Imidazole Buffer B

Cat.No.	Size
42269.01	1 kit

Metal Chelate Mini Pack Mini MC Plugs

HS 38220000

The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 24 x 0.23 ml Ni-IMAC columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microfuge tubes
Min. number of purifications: 48 purifications (2 uses per column)
Typical capacity/preparation: 1 mg 6 x His-tagged protein
Buffers: 5 x PBS Buffer A, 1 x Imidazole Buffer B

Cat.No.	Size
42270.01	24 pieces

Metal Chelate Mini Sample Kit - 4 Mini MC Plugs

HS 38220000

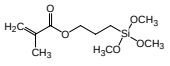
The Proteus IMAC kit is designed for simple, rapid His-tagged recombinant protein purification from a cell lysate under native or denaturing conditions. Proteus spin columns replace lengthy and expensive chromatographic methods such as FPLC. Metal chelate affinity chromatography is a rapid one-step purification, which removes most contaminants and can achieve purities close to homogeneity.

Contents:
Quantity: 4 x 0.23 ml Ni-IMAC columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microfuge tubes
Min. number of purifications: 8 purifications (2 uses per column)
Typical capacity/preparation: 1 mg 6 x His-tagged protein
Vivaspin 500 ultrafiltration concentrators: 4
Buffer: 5 x PBS Buffer A, 1 x Imidazole Buffer B

Cat.No.	Size
42268.01	1 kit

3-Methacryloxypropyltrimethoxysilane (Bind-Silane)

(Polyfix 1000; Bind-Silane)
$C_{10}H_{20}O_5Si$ ♦ M_r 248.4 ♦ CAS [2530-85-0]



WARNING
H315-H319-H335 ♦ EINECS 219-785-8 ♦ WGK 1 ♦ HS 29161400
Storage temperature +2 °C to +8 °C

Used to covalently attach polyacrylamide gels to the surface of glass plates. The gel stays firmly attached to the glass during staining and drying procedures.

Assay (GC)	98.0 - 100.0 %

Cat.No.	Size
28739.01	100 ml

Methanol analytical grade

CH_4O ♦ M_r 32.04 ♦ CAS [67-56-1]

DANGER
H225-H301-H311-H331-H370 ♦ EG-Index 603-001-00-X ♦ GGVSE/ADR 3 II UN1230 ♦ IATA 3 II UN1230 ♦ EINECS 200-659-6 ♦ WGK 1 L ♦ HS 29051100

Solvent used in biochemical applications, as fixative in immunfluorescence and histology and in transfer buffer for Western Blotting.
Suitable in combination with methanol for protein precipitation according to Wessel & Flügge (1).

Assay (GC)	min. 99.9 %
Density (20 °C)	0.7910–0.7930
Water	max. 500 ppm
Acidity	max. 0.0003 meg/g
Residue on evaporation	max. 8 ppm

References:
1. Wessel, D Flügge, U.I. (1984) Anal. Biochem. ***138***, 141-43

Cat.No.	Size
45631.01	1 L
45631.02	2,5 L

Methanol for HPLC

CH_4O ♦ M_r 32.0 ♦ CAS [67-56-1]

DANGER
H225-H301-H311-H331-H370 ♦ MAK/TRK 200 ml/m³; 270 mg/m³ ♦ EG-Index 603-001-00-X ♦ GGVSE/ADR 3 II UN1230 ♦ IATA 3 II UN1230 ♦ EINECS 200-659-6 ♦ WGK 1L HS 29051100

Special grade for use as a mobile phase in chromatographic applications like reversed-phase liquid chromatography.

Assay	min. 99.8 % (GC)
Density (20 °C)	0.7910 - 0.7920
Boiling point	64.5 - 65.0 °C
Refractive Index	1.3310

Maximum Impurity Levels:

Water	max. 0.05 %
Acidity	max. 0.001 %
Residue on evaporation	max. 0.0005 %

Minimum Transmission Levels
1 cm cell compared against HPLC-water

210 nm	≧ 25.0 %
230 nm	≧ 70.0 %
240 nm	≧ 85.0 %
260 mm	≧ 98.0 %

Cat.No.	Size
45630.01	2,5 L

Methanol for UHPLC-MS

CH_4O ♦ M_r 32.0 ♦ CAS [67-56-1]

DANGER
H225-H301-H311-H331-H370 ♦ MAK/TRK 200 ml/m³; 270 mg/m³ ♦ EG-Index 603-001-00-X ♦ GGVSE/ADR 3 II UN1230 ♦ IATA 3 II UN1230 ♦ EINECS 200-659-6 ♦ WGK 1 L ♦ HS 29051100

Special grade for excellent performance in ultra high performance liquid chromatography-tandem mass spectrometry (UHPLC-MS/MS).

Assay (GC)	min. 99.99 %
Refractive index (20 °C)	1.3270 - 1.3300
Acidity	≤ 0.0003 meq/g
Alkalinity	≤ 0.00006 meq/g
Water (KF)	≤ 200 ppm
Residue on evaporation	≤ 1 ppm

Transmittance

210 nm	min. 40.0 %
225 nm	min. 70.0 %
230 nm	min. 80.0 %
≥ 260 nm	min. 98.0 %

Fluorescence (quinine)

254 nm	max. 1 ppb
365 nm	max. 1 ppb

UHPLC gradient peak

220 nm	max. 4 mAU
235 nm	max. 2 mAU
Drift at 220 nm	max. 30 mAU
Drift at 235 nm	max. 10 mAU

Test LC-MS TIC (50 – 2000 m/z)
ES I(+)

Sensitive impurities (reserpine)	max. 30 ppb

Metal Compounds

Na/K/Ca	max. 50 ppb
Al/Fe/Mg	max. 20 ppb

Microfiltered, 0.1 µm

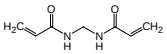
Cat.No.	Size
45635.01	2,5 L

Methyl Violet 10B

see 27335 Crystal Violet, page 30

N,N'-Methylene bisacrylamide 2X analytical grade

(Bis(acrylamido)methane)
$C_7H_{10}N_2O_2$ ♦ M_r 154.2 ♦ CAS [110-26-9]



WARNING
H302 ♦ EINECS 203-750-9 ♦ WGK 2 ♦ HS 29241900
Storage temperature +2 °C to +8 °C

Cross-linking agent for making polyacrylamide gels for use in protein and nucleic acid electrophoresis.

Assay (titr.)	min. 98.0 %
A 290 nm/1 % in water	max. 0.25
pH 1 % in water	5.5 - 7.5

Cat.No.	Size
29195.02	50 g
29195.03	250 g

N,N'-Methylene bisacrylamide 2X solution 2 % (w/v)

WGK 1 ♦ HS 29241900
Storage temperature +2 °C to +8 °C

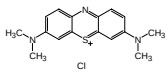
Cross-linking agent for making polyacrylamide gels for use in protein and nucleic acid electrophoresis.

A 290 nm 1:1 in water	ca. 0.25
pH 1:1 in water	6.0 - 8.0

Cat.No.	Size
29197.01	1 L

Methylene Blue

(Basic Blue 9; Methylene blue chloride; Methylthionine chloride)



C.I.52015 ♦ $C_{16}H_{18}N_3S^+ \cdot Cl^-$ ♦ M_r 319.86 ♦ CAS [61-73-4]

WARNING
H302 ♦ EINECS 200-515-2 ♦ WGK 2L ♦ HS 32049000

Standardized according to DIN 58981. Methylene blue is very sensitive to oxidation and usually contains demethylated products, called Azure A, B and C and thionine. For staining and detecting RNA in PAGE (as 0.1 % solution in water). Water soluble nuclear staining dye, mostly used for staining of blood cells.

λ max. (0.0001 % in water)	655 - 670 nm
A 1 cm/λ max./0.0001 % in water	min. 0.17

References:

1. Herrini & Schmidt (1988) Rapid, reversible staining of Northern Blots prior to hybridization. BioTechniques ***6***, 196

Cat.No.	Size
29198.01	25 g

Methylnadic anhydride pract.

(NMA; EPON hardener MNA; Methylnorbornene-2,3-dicarboxylic anhydride; Nadic methyl anhydride)
$C_{10}H_{10}O_3$ ♦ M_r 178.19 ♦ CAS [25134-21-8]

DANGER
H302-H315-H317-H318-H331-H334 ♦ GGVSE/ADR 6.1 II UN2810 ♦ IATA 6.1 II UN2810 ♦ EINECS 246-644-8 ♦ WGK 3 ♦ HS 29172000

Methylnadic anhydride (MNA) is a hardener component for polyester and epoxy resins, for example Glycid ether 100 (formerly EPON 812) embedding for electron microscopy.
Glycid ether cured with MNA yields very hard blocks. By combining different proportions of the hardeners dodecenyl succinic acid anhydride (DDSA) and methylnadic anhydride (MNA) with glycid ether will allow the preparation of blocks with a hardness from soft to hard.

d20 °C	1.20 - 1.25
Refractive index	1.5040 - 1.5080

Cat.No.	Size
29452.01	100 ml
29452.02	250 ml

Methylnorbornene-2,3-dicarboxylic anhydride

see 29452 Methylnadic anhydride, page 70

N-Methylphenazinium methylsulfate

see 32030 Phenazine·methosulfate, page 79

Methyltrioctyl ammonium chloride

see 37076 Trioctylmethylammonium chloride, page 137

Mineral oil molecular biology grade

(Paraffin oil, low viscosity)
CAS [8042-47-5]

EINECS 232-455-8 ♦ WGK 1L ♦ HS 27101985

DNase/RNase not detected. Suitable for overlaying aqueous reactions and centrifuge gradients.

Cat.No.	Size
39776.01	50 ml

Mini Pro 300 V

HS 90272000

Combining small size and versatility, the new Mini Pro 300 V power supply is an ideal choice for any researcher. The two terminators allow the simultaneous run of two eletrophoresis chambers, saving both time and valuable bench space. Capable of providing constant voltage or constant current in 1 V or 1 mA steps, the unit is perfectly suited to run both vertical polyacrylamide or horizontal agarose gel electrophoresis experiments.

- 300 V, 400 mA, 60 W output
- Two pairs of outlet terminals
- Time with alarm function
- Constant voltage or constant current options

Cat.No.	Size
MINI-300	1 piece

M9-Minimal salts 5x, powder 52.5 g for 1 liter medium

HS 38210000

For cultivation of *E. coli* and plasmid amplification in molecular biology
30 g/l Na_2HPO_4
15 g/l KH_2PO_4
5 g/l NH_4Cl
2.5 g/l NaCl
For making 1 L 5x concentrate dissolve 52.5 g in 1 L distilled water and sterilize by autoclaving. The 5x concentrate can be stored and diluted as needed to prepare 5 L of 1x M9 minimum salts.

References:

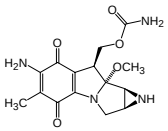
1. Sambrook, J., et al., Molecular Cloning : A Laboratory Manual, 2nd ed., p. A.3, Cold Spring Harbor laboratory Press, Cold Spring Harbor, New York

Cat.No.	Size
48505.01	525 g

Mitomycin C lyophil. research grade

$C_{15}H_{18}N_4O_5$ ♦ M_r 334.3 ♦ CAS [50-07-7]

DANGER
H302-H351 ♦ EINECS 200-008-6 ♦ WGK 3L ♦ HS 29419000



Potent anti-tumor antibiotic isolated from *Streptomyces caespitosus*. Belongs to the group of aziridine-containing natural products. Causes intra- and interstrand crosslinks in DNA, which prevent dissociation of the strands, and thus inhibits replication and transcription of DNA. Each vial contains 48 mg sodium chloride as diluent.

References:

1. Tomasz, M. et al. (1987) Science ***235,*** 1204-8
2. de Klein, A. et al. (2000) Curr. Biol. ***10***, 479-82
3. Martin, T.W. et al. (2002) Structure ***10***, 933-42
4. Mai, Q. et al. (2007) Cell Res. ***17***, 1008-19

Cat.No.	Size
29805.01	2 mg

Mitsubishi Videoprinter P95DE

HS 90278080

Cat.No.	Size
P95DE.01	1 piece

Molecular Weight Markers for DNA

see 39311 SERVA DNA Standard 100 bp Ladder Equimolar, page 102

Molecular Weight Markers for Proteins

see 39250 SERVA Unstained Protein Standard IV, page 111

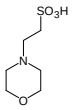
Monothioethylene glycol

see 28626 2-Mercaptoethanol, page 67

MOPS

see 29836 Morpholinopropane sulfonic acid, page 71

Morpholinoethane sulfonic acid analytical grade



(MES)
$C_6H_{13}NO_4S$ ♦ M_r 195.24 ♦ CAS [4432-31-9]

EINECS 224-632-3 ♦ WGK 1L ♦ HS 29349990

pKa 20 = 6.15. Buffering substance for biochemistry and molecular biology (1). Physical constants (2).

Assay (titr.)	min. 99.0 %
A 1 cm/10 % in water	
260 nm	max. 0.1
280 nm	max. 0.1
pH 10 % in water	2.5 - 4.0

References:

1. Good, N.E. & Izawa, S. (1972) Methods Enzymol. ***24,*** 53-68
2. Sankar, M. & Bates, R.G. (1978) Anal. Chem. ***50,*** 1922-4

Cat.No.	Size
29834.02	100 g
29834.04	500 g
29834.03	1 kg

Morpholinoethane sulfonic acid, monohydrate analytical grade

(MES)
$C_6H_{13}NO_4S{\cdot}H_2O$ ♦ M_r 213.25 ♦ CAS [145224-94-8]

EINECS 224-632-3 ♦ HS 29349990

pKa 20 = 6.15. Buffering substance (1). Physical constants (2).

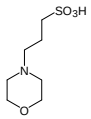
Assay (titr.)	min. 99.0 %
A 1 cm/0.1 M in water	
260 nm	max. 0.05
280 nm	max. 0.02
pH 1 % in water	2.5 - 4.0

References:

1. Good, N.E. & Izawa, S. (1972) Methods Enzymol. ***24,*** 53-68
2. Sankar, M. & Bates, R.G. (1978) Anal. Chem. ***50,*** 1922-4

Cat.No.	Size
29830.03	1 kg

Morpholinopropane sulfonic acid analytical grade



(MOPS)
$C_7H_{15}NO_4S$ ♦ M_r 209.27 ♦ CAS [1132-61-2]

EINECS 214-478-5 ♦ WGK 1L ♦ HS 29349990

pKa 20 = 7.2. Buffering substance for biochemistry, molecular and cell biology. Buffer component for isoelectric focussing and SDS PAGE. Substitute for HCO_3^-/CO_2-buffer in cell culture for muscle studies.

Assay (titr.)	min. 99.0 %
A 1 cm/10 % in water	
260 nm	max. 0.1
280 nm	max. 0.08
pH 10 % in water	3.0 - 5.0

References:

1. Good, N.E. & Izawa, S. (1972) Methods Enzymol. ***24,*** 53-68

Cat.No.	Size
29836.02	100 g
29836.03	500 g
29836.04	1 kg

MP 310 Power Supply

HS 90272000

The Major Science MP 310 power supply is a microprocessor-controlled power supply with full control range of designated current and/or voltage. Its maximum voltage output is 300 V. MP 310 is designed to meet most electrophoresis needs in a personal, single, easy to use unit. It is capable of running horizontal and vertical electrophoresis (like 2D electrophoresis, SDS PAGE applications). In addition, a timer with alarm function is also equipped in the unit, and so is pause function. Furthermore, the powerful specifications plus four terminator pairs can be used to run four units in parallel. The compact design of stackability is another feature to save benchtop space.

- Advanced power capacity: 300 V, 700 mA, 150 W
- Wide applications for DNA, RNA, and protein electrophoresis
- Microprocessor controlled
- Constant voltage or constant current
- Four pairs of outlet terminator
- Timer with alarm function
- Advanced safety devices
- Stackability
- Compact size

Cat.No.	Size
MP-310	1 piece

MP 320 Power Supply

HS 90272000

In addition to running standard horizontal agarose and vertical polyacrylamide gels, the MP 320 power supply easily handles all your blotting applications. Its microprocessor control offers constant voltage, constant current or constant power and pause/resume run capability during timed or continuous operation. MP 320 is fully programmable, offering up to 6 multi-step settings and saving up to 30 programs, and capable of running 4 cells simultaneously. Its design provides a compact and modern stackable case, and a 2.6" LCD screen, which displays all the running / setting conditions. Safety devices include no load detection, leakage detection, sudden load change, over temperature protection, and over load detection.

- 300 V maximum voltage
- 3000 mA maximum current
- 300 W maximum power
- Four pairs of outlet terminals
- Timer with alarm function
- Constant voltage or constant current operation
- Advanced safety device design
- Compact size
- Stackable case
- Wide applications for DNA, RNA and protein electrophoresis

Cat.No.	Size
MP-320	1 piece

MP 510 Power Supply

HS 90272000

The MP 510 power supply is a microprocessor controlled power supply that covers the broadest range of applications. It offers constant voltage, constant current or constant power. Pause/resume run capability during timed or continuous operation is allowed. MP 510 is a fully programmable model, offering up to 6 multi-step settings and saving up to 30 programs, and capable for running 4 electrophoresis systems simultaneously. Its design provides a compact and modern stackable case, and a 2.6" LCD screen, showing all the running / setting conditions. Safety devices include no load detection, leakage detection, sudden load change detection, over temperature protection, and over load detection.

- 500 V maximum voltage
- 800 mA maximum current
- 300 W maximum power
- Four pairs of outlet terminals
- Timer with alarm function
- Advanced safety device design
- Compact size
- Stackable case
- Wide applications for DNA, RNA and protein electrophoresis

Cat.No.	Size
MP-510	1 piece

MS 222

see 12396 3-Aminobenzoic acid ethyl ester·methanesulfonate, page 10

MS White Light Table A4

HS 90278017

White light table with filter size of 210 x 297 mm. Suitable for digital image analysis and other daily routine work.

Cat.No.	Size
DI-WLA4	1 piece

MTT

see 20395 3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium ·bromide, page 33

Murashige and Skoog Minimal Organic Powder Medium

DANGER

H271 ♦ GGVSE/ADR 5.1 III UN1479 ♦ IATA 5.1 III UN1479 ♦ HS 38210000
Storage temperature +2 °C to +8 °C

Murashige and Skoog Plant Salts **with** i-inositol and thiamine hydrochloride. **Without** agar and **without** sucrose.

Supplements:

Agar (cat. no. 11396)	8 g/l
Sucrose (cat. no. 35579)	30 g/l

References:

1. Murashige, T. & Skoog, F. (1962) Physiol. Plant. ***15,*** 473-97

Cat.No.	Size
47515.04	10 L
47515.03	5 x 10 L

MycoDecon

DANGER
H225-H318-H336 ♦ GGVSE/ADR 3 II UN1987 ♦ IATA 3 II UN1987 ♦ HS 38089490

Highly effective disinfectant, particularly active against mycoplasma, but also against bacteria, virus and fungus.
One of the sources of mycoplasma contamination is the formation of aerosols that can occur during handling of infected cells. Cell culture labs should therefore thoroughly disinfect all surfaces of the laboratories and equipment, including benches, incubators, storage boxes of cells, liquid nitrogen containers.
MycoDecon is an alcohol based, non-corrosive and non-carcinogenic solution which can be easily sprayed on all surfaces without leaving any traces. Supplied in a spray bottle (250 ml) or as refill (500 ml).

Cat.No.	Size
34206.01	250 ml
34206.02	500 ml

Mycorase Solution (50x) for mycoplasma removal

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

Mycorase is a highly effective antibiotic solution especially developed for safe eradication of mycoplasma contamination in most cell lines. It is active against a broad range of different mycoplasma strains without effect on eukaryotic cell proliferation.

- Ready-to-use solution
- Broad range of action
- Safe eradication without effect on cell proliferation
- Permanent cure for most cell types

Cat.No.	Size
47987.01	100 ml

Mycostatin

see 29870 Nystatin min. 4 400 units/mg, page 77

Myoglobin equine lyophil.

M_r ca. 17 800 ♦ CAS [100684-32-0]

EINECS 309-705-0 ♦ WGK 1 ♦ HS 35040090
Storage temperature +2 °C to +8 °C

From skeletal muscle; consisting mainly of metmyoglobin (Fe^{3+} -form).

Assay (SDS PAGE)	min. 95.0 %
pI	7.3
Iron content	ca. 0.3 %

References:
1. Takano, T. (1977) J. Mol. Biol. ***171,*** 31-59

Cat.No.	Size
29895.01	100 mg

NAD

see 30311 β-Nicotinamide adenine dinucleotide, page 75

NADH

see 30312 β-Nicotinamide adenine dinucleotide reduced·Na_2-salt, page 75

Nadic methyl anhydride

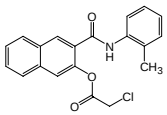
see 29452 Methylnadic anhydride, page 70

NADPH

see 30316 β-Nicotinamide adenine dinucleotide phosphate reduced ·Na_4-salt, page 75

Naphthol-AS-D-chloroacetate pure

$C_{20}H_{16}NO_3Cl$ ♦ M_r 353.8 ♦ CAS [35245-26-2]



EINECS 252-463-5 ♦ HS 29241900
Storage temperature -15 °C to -25 °C

Histochemical substrate for esterase with improved stability.

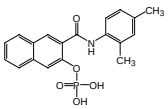
Assay (HPLC) min. 97.0 %

References:
1. Burstone, M.S. (1957) Arch. Panthol. ***63,*** 164-7
2. Moloney, W. et al. (1960) J. Histochem. Cytochem. ***8,*** 200-7

Cat.No.	Size
29995.01	250 mg
29995.02	1 g

Naphthol-AS-MX-phosphate research grade

$C_{19}H_{18}NO_5P$ ♦ M_r 371.32 ♦ CAS [1596-56-1]



H315-H319-H335 ♦ EINECS 216-480-1 ♦
HS 29241900
Storage temperature -15 °C to -25 °C

Naphthol-AS-MX-phosphate is a histochemical substrate of alkaline phosphatase and acid phophatase.
Suitable for dye coupling.

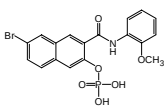
Assay (HPLC) min. 99.0 %

References:
1. Makler, M.T. et al. (1981) Clin. Chem. ***27,*** 1609-13

Cat.No.	Size
30002.01	250 mg

Naphthol-AS-BI-phosphate research grade

(6-Bromo-2-phosphohydroxy-3-naphthoic acid o-anisidide)
$C_{18}H_{15}BrNO_6P$ ♦ M_r 452.2 ♦ CAS [1919-91-1]



WARNING
H315-H319-H335 ♦ EINECS 217-645-0 ♦
WGK 1 ♦ HS 29322985
Storage temperature -15 °C to -25 °C

Histochemical substrate for phosphatase.

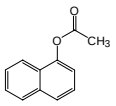
Purity (HPLC) min. 95.0 %

References:
1. Pearse, A.C.E. (1960) Histochemistry, Theoretical and Applied, 2nd ed., p. 914, Little, Brown & Co., Boston

Cat.No.	Size
29988.02	500 mg
29988.03	1 g

1-Naphthyl acetate analytical grade

(α-Naphthyl acetate; Acetic acid α-naphthyl ester)
$C_{12}H_{10}O_2$ ♦ M_r 1 186.21 ♦ CAS [830-81-9]



EINECS 212-599-8 ♦ HS 29153900
Storage temperature +2 °C to +8 °C

Substrate for esterases.

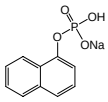
Assay (HPLC)	min. 99.0 %
MP	42 - 46 °C

References:
1. Mastropaolo, W. & Yourno, J. (1981) Anal. Biochem. ***115,*** 188-93

Cat.No.	Size
30040.01	25 g

1-Naphthyl phosphate·Na-salt analytical grade

(Sodium-1-naphthyl hydrogen phosphate)
$C_{10}H_8O_4P{\cdot}Na{\cdot}H_2O$ ♦ M_r 264.15 ♦ CAS [81012-89-7]



WARNING
H315-H319-H335 ♦ EINECS 220-171-7 ♦
HS 29199000
Storage temperature +2 °C to +8 °C

Specially purified product for assay of phosphatase activity.

Assay (titr.)	min. 98.0 %
Free naphthol	max. 0.01 %

References:
1. Pearse, A.C.E. (1960) Histochemistry, Theoretical and Applied, 2nd ed., p. 882, Little, Brown & Co., Boston

Cat.No.	Size
30130.03	5 g

Native Anode Buffer for BN/CN (10x)

HS 38220000

Running buffer for the use as anode buffer in Blue or Clear Native PAGE. Supplied as 10x concentrate. Contains 500 mM BisTris-HCl (pH 7.0).

Cat.No.	Size
42535.01	1 L

Native Cathode Buffer for BN/CN (10x)

HS 38220000

Running buffer for the use as cathode buffer in Blue or Clear Native PAGE. Supplied as 10x concentrate. Contains 500 mM Tricine, 150 mM BisTris.

Cat.No.	Size
42536.01	500 ml

NBT

see 30550 Nitro blue tetrazolium chloride, page 76

NC 2 Nitrocellulose Membrane

Pore size 0.2 m, format: 30 cm x 3 m

CAS [9004-70-0]

WARNING
H228 ♦ GGVSE/ADR 4.1 II UN3270 ♦ IATA 4.1 II UN3270 ♦ WGK 1 ♦ HS 39122019

Especially for use with proteins of low molecular weight (< 20 000 Dalton). Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background.

References:
1. Burnette, N. (1981) Anal. Biochem. ***112***, 195-203
2. Tsang, V.C.W. et al. (1983) Methods Enzymol. ***92***, 377

Cat.No.	Size
71224.01	1 roll

NC 2 Nitrocellulose Membrane
Pore size 0.2 µm, format: 80 mm x 85 mm

CAS [9004-70-0]

WARNING
H228 ♦ GGVSE/ADR 4.1 II UN3270 ♦ IATA 4.1 II UN3270 ♦ WGK 1 ♦ HS 39122019

Especially for use with proteins of low molecular weight (< 20 000 Dalton). Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background.

References:
1. Burnette, N. (1981) Anal. Biochem. ***112***, 195-203
2. Tsang, V.C.W. et al. (1983) Methods Enzymol. ***92***, 377

Cat.No.	Size
71222.01	10 pieces

NC 2 Nitrocellulose Membrane
Pore size 0.2 µm, format: 20 cm x 20 cm

CAS [9004-70-0]

WARNING
H228 ♦ GGVSE/ADR 4.1 II UN3270 ♦ IATA 4.1 II UN3270 ♦ WGK 1 ♦ HS 39122019

Especially for use with proteins of low molecular weight (< 20 000 Dalton). Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background.

References:
1. Burnette, N. (1981) Anal. Biochem. ***112***, 195-203
2. Tsang, V.C.W. et al. (1983) Methods Enzymol. ***92***, 377

Cat.No.	Size
71223.01	5 sheets

NC 45 Nitrocellulose Membrane
Pore size 0.45 µm, format: 30 cm x 3 m

CAS [9004-70-0]

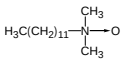
WARNING
H228 ♦ GGVSE/ADR 4.1 II UN3270 ♦ IATA 4.1 II UN3270 ♦ WGK 1 ♦ HS 39122019

Nitrocellulose membranes are the most popular membranes for Western, Southern and Northern Blotting. The membranes bind both proteins and nucleic acids. Nitrocellulose exhibits high binding capacity and has low background.

Cat.No.	Size
71208.01	1 roll

NDSB-201 research grade

(Non-Detergent Sulfobetaine 201; PPS; 3-(1-Pyridino)-1-propane sulfonate; 1-(3-Sulfopropyl)pyridinium betain)
$C_8H_{11}NO_3S$ ♦ CAS [15471-17-7]



HS 29333999

A non-detergent sulfobetaine with zwitterionic properties. Easily removed by dialysis. Similar to zwitterionic detergent, but does not form micelles due to too short hydrophobic side chains. It prevents protein aggregation and facilitates the renaturation of chemically and thermally denatured proteins. Suitable for solubilization of proteins for proteomic applications.

Assay (HPLC dried)	min. 99.0 %

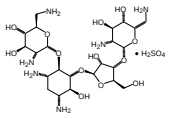
References:
1. Goldberg, M., E., et al., (1996), Folding & Design ***1***, 21
2. Vuillard, L., et al., (1995), Biochem. J. ***305***, 337

Cat.No.	Size
20762.02	250 g

Neodol PB
see 35796 Teepol 610, page 134

Neomycin·sulfate research grade, Ph. Eur.

$C_{23}H_{46}N_6O_{13}·xH_2SO_4$ ♦ M_r 614.7 (base) ♦ CAS [1405-10-3]



DANGER
H315-H317-H319-H334-H335-H361d ♦ EINECS 215-773-1 ♦ WGK 1 ♦ HS 29419000
Storage temperature +2 °C to +8 °C

Min. 680 U/mg. Aminoglycoside antibiotic complex. Inhibits protein biosynthesis by binding to the 30S subunit of bacterial ribosomes. Causes misreading of mRNA.

References:
1. Cox, D. et al. (1977) in: Sammes, P.B. (ed.) Topics in antibiotics chemistry vol. ***I.*** Chichester: Horwood, pp. 1-90
2. Lancini, G. & Parenti, F. (1982) Antibiotics, Springer, New York

Cat.No.	Size
30250.01	10 g
30250.03	100 g

NetFix™ for PAG Size: 265 mm x 125 mm

HS 38220000

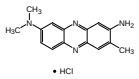
NetFix™ is an inert, reinforcing fabric which serves as an ideal support for gel layers. The polyester fabric is activated to bind polyacrylamide.

NetFix is a registered trademark of SERVA.

Cat.No.	Size
42775.01	36 pieces

Neutral Red pure

(Basic Red 5; Toluylene Red; 3-Amino-7-dimethylamino-2-methylphenazinium·chloride)
C.I.50040 ♦ $C_{15}H_{17}N_4·Cl$ ♦ M_r 288.8 ♦ CAS [553-24-2]



EINECS 209-035-8 ♦ WGK 2L ♦ HS 32041300

Indicator pH 6.8 - 8.0. For use in histology and supravital staining.

λ max.	523 nm - 533 nm
A 1 cm/0.001 % in water	
528 nm	min. 0.5
ϵ528 nm/water	min. 14 440

Cat.No.	Size
30305.01	25 g

Ni-Extrachel Agarose Resin

HS 38220000
Storage temperature +2 °C to +8 °C

The resin has a polychelator ligand covalently coupled to a highly crosslinked agarose resin and is loaded with nickel ions.
Ni-Extrachel Agarose Resin works in presence of EDTA, DTT and other chemicals, which result in stripping of the metal ions with standard Ni-NTA or -IDA resins.
Its specificity and stability allows a one-step purification without the need of pretreatment of samples for removal of nickel stripping agents.
Suitable for batch, gravity and high pressure column purification.
Binding capacity: > 80 mg/ml gel.

Cat.No.	Size
42180.01	25 ml
42180.02	100 ml

Ni^{2+}-IDA-Metal Chelate Sepharose Resin

HS 38220000

Ni^{2+}-IDA Metal Chelate Agarose Resin designed for affinity purification of polyhistidine tagged proteins. Nickel ions are carefully loaded onto an agarose matrix via an iminodiacetic acid (IDA) coupled ligand to obtain a stable affinity matrix with a high binding capacity for histidine residues (up to 10 mg/ml determined from *E. coli* cleared lysate). Other metal ions such as Co^{2+}, Cu^{2+}, and Zn^{2+} can also be used resulting in different affinities.
If required, the Nickel ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

Specifications
Specificity: Polyhistidine tag
Matrix: Agarose
Couples ligand: Iminodiacetic acid (IDA)
Binding capacity: 10 mg/ml
Bead size: 45 – 160 µm
Flow rate: 0.25 – 2 ml/min
Maximum pressure: 42 psi
Buffer compatibility: Common aqueous buffers from pH 2 - 12
Cleaning buffer examples: 30 % ethanol, 1 M NaOH, 0.01 M HCl, 8 M urea, 6 M guanidinium hydrochloride
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol at ambient temperature
Storage: Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

Cat.No.	Size
42315.01	25 ml

Ni^{2+}-IDA-Metal Chelate Sepharose Resin

HS 38220000

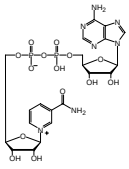
Ni^{2+}-IDA Metal Chelate Agarose Resin designed for affinity purification of polyhistidine tagged proteins. Nickel ions are carefully loaded onto an agarose matrix via an iminodiacetic acid (IDA) coupled ligand to obtain a stable affinity matrix with a high binding capacity for histidine residues (up to 10 mg/ml determined from *E. coli* cleared lysate). Other metal ions such as Co^{2+}, Cu^{2+}, and Zn^{2+} can also be used resulting in different affinities.
If required, the nickel ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

Specifications
Specificity: Polyhistidine tag
Matrix: Agarose
Couples ligand: Iminodiacetic acid (IDA)
Binding capacity: 10 mg/ml
Bead size: 45 – 160 µm
Flow rate: 0.25 – 2 ml/min
Maximum pressure: 42 psi
Buffer compatibility: Common aqueous buffers from pH 2 - 12
Cleaning buffer examples: 30 % ethanol, 1 M NaOH, 0.01 M HCl, 8 M urea, 6 M guanidinium hydrochloride
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol at ambient temperature
Storage: Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

Cat.No.	Size
42316.01	100 ml

β-Nicotinamide adenine dinucleotide analytical grade

(NAD; DPN)
$C_{21}H_{27}N_7O_{14}P_2$ ♦ M_r 663.43 ♦ CAS [53-84-9]



EINECS 200-184-4 ♦ WGK 1 ♦ HS 29349990
Storage temperature +2 °C to +8 °C

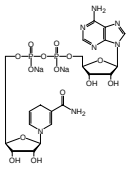
β-Nicotinamide adenine dinucleotide (NAD+) forms together with β-Nicotinamide adenine dinucleotide reduced (NADH) a coenzyme redox pair involved in a wide range of enzyme catalyzed oxidation reduction reactions.

Assay (enzym.)	min. 94.5 %
Assay from ϵNAD 260 nm, pH 7	min. 94.5 %
Water content (KF)	max. 3.5 %

Cat.No.	Size
30311.02	1 g
30311.03	5 g
30311.04	25 g

β-Nicotinamide adenine dinucleotide reduced·Na_2-salt research grade

(NADH; DPNH)
$C_{21}H_{27}N_7O_{14}P_2 \cdot Na_2$ ♦ M_r 709.4 ♦ CAS [606-68-8]



EINECS 210-123-3 ♦ WGK 1 ♦ HS 29349990
Storage temperature -15 °C to -25 °C ✻

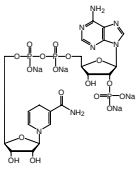
β-Nicotinamide adenine dinucleotide reduced (NADH) forms together with β-Nicotinamide adenine dinucleotide (NAD+) a coenzyme redox pair involved in a wide range of enzyme catalyzed oxidation reduction reactions.

Assay (HPLC)	min. 98.0 %
Loss on Drying	max. 8.0 %

Cat.No.	Size
30312.01	250 mg
30312.02	1 g

β-Nicotinamide adenine dinucleotide phosphate reduced ·Na_4-salt analytical grade

(NADPH; TPNH)
$C_{21}H_{26}N_7O_{17}P_3 \cdot Na_4$ ♦ M_r 833.4 ♦ CAS [2646-71-1]



EINECS 220-163-3 ♦ WGK 1 ♦ HS 29349990
Storage temperature -15 °C to -25 °C ✻

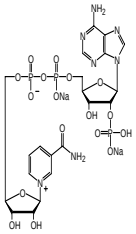
β-Nicotinamide adenine dinucleotide phosphate reduced (NADPH) forms together with β-Nicotinamide adenine dinucleotide phosphate (NADP+) a coenzyme redox pair involved in a wide range of enzyme catalyzed oxidation reduction reactions.

Assay of NADP·Na_4 (enzymatic, 340 nm)	min. 95.0 %
Assay (HPLC)	min. 95.0 %
Water (KF)	max. 8.0 %

Cat.No.	Size
30316.02	100 mg
30316.03	500 mg

β-Nicotinamide adenine dinucleotide phosphate·Na_2-salt research grade

(NADP; TPN)
$C_{21}H_{26}N_7O_{17}P_3 \cdot Na_2$ ♦ M_r 787.4 ♦ CAS [24292-60-2]



EINECS 246-129-8 ♦ WGK 1 ♦ HS 29349990
Storage temperature -15 °C to -25 °C

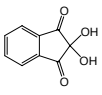
β-Nicotinamide adenine dinucleotide phosphate (NADP+) forms together with β-Nicotinamide adenine dinucleotide phosphate reduced (NADPH) a coenzyme redox pair involved in a wide range of enzyme catalyzed oxidation reduction reactions.

Assay (enzymatic)	min. 97.0 %
Water (KF)	max. 6.0 %

Cat.No.	Size
30315.02	100 mg
30315.04	1 g
30315.05	5 g

Ninhydrin analytical grade

(2,2-Dihydroxy-1,3-indanedione)
$C_9H_6O_4$ ♦ M_r 178.2 ♦ CAS [485-47-2]



WARNING
H302-H315-H319-H335 ♦ EINECS 207-618-1 ♦ WGK 2 ♦ HS 29144090

Reagent for the detection and assay of amino acids, peptides, amines and amino sugars.

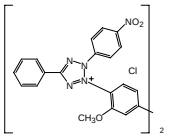
Assay (titr.)	min. 99.0 %

References:
1. Schönberg, A. & Singer, E. (1978) Tetrahedron ***34,*** 1285-1300

Cat.No.	Size
30410.01	25 g

Nitro blue tetrazolium chloride analytical grade

(NBT; Nitro BT; Nitrotetrazolium blue chloride; Ditetrazolium dye)



$C_{40}H_{30}Cl_2N_{10}O_6$ ♦ M_r 817.7 ♦ CAS [298-83-9]

WARNING
H302-H332 ♦ EINECS 206-067-4 ♦ WGK 1 ♦ HS 29339980
Storage temperature +2 °C to +8 °C

A ditetrazolium compound for demonstrating succinic dehydrogenase activity (1), glucose-6-phosphate dehydrogenase (2) and xanthine oxidase (3). Used in conjuction with BCIP (cat. no. 15247) for detection of alkaline phosphatase.
Stock solution: 50 mg/ml in 70 % DMF. Store at 4 °C or -20 °C.
Staining solution for Western Blots: 66 µl NBT stock solution and 33 µl BCIP stock solution in 10 ml staining buffer (100 mM NaCl, 5 mM $MgCl_2$, 100 mM Tris; pH 9.5)

Purity	min. 98.0 %

References:
1. Nachlas, M.M. et al. (1957) J. Histochem. Cytochem. ***5,*** 420-36
2. Negi, D.S. & Stephens, R.J. (1977) J. Histochem. Cytochem. ***25,*** 149-54
3. Auscher, C. & Amory, N. (1976) Biomedicine ***5,*** 37-8

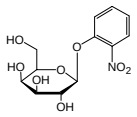
Cat.No.	Size
30550.01	250 mg
30550.02	1 g
30550.03	5 g

Nitro BT

see 30550 Nitro blue tetrazolium chloride, page 76

2-Nitrophenyl-β-D-galactopyranoside research grade

(ONPG)



$C_{12}H_{15}NO_8$ ♦ M_r 301.3 ♦ CAS [369-07-3]

EINECS 206-716-1 ♦ WGK 1 ♦ HS 29389090
Storage temperature +2 °C to +8 °C

Substrate for β-D-galactosidase.

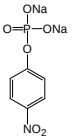
Purity (HPLC)	> 99.0 %
Free nitrophenol	max. 500 ppm

References:
1. Levvy, G.A. & Conchie, J. (1966) Methods Enzymol. ***8,*** 571-84
2. Naider, F. et al. (1972) Biochemistry ***11,*** 3202-7

Cat.No.	Size
30710.02	5 g

4-Nitrophenyl phosphate·Na_2-salt analytical grade

(4-NPP)



$C_6H_4NO_6P{\cdot}Na_2{\cdot}6H_2O$ ♦ M_r 371.1 ♦ CAS [4264-83-9]

EINECS 224-246-5 ♦ WGK 1 ♦ HS 29199000
Storage temperature -15 °C to -25 °C

Filled under nitrogen. High quality substrate for alkaline and acid phosphatase (1).

Assay (HPLC)	min. 99.0 %
Water (KF)	27 - 31 %
Free p-nitrophenol	max. 0.1 %

References:
1. Lowry, O.H. (1957) Methods Enzymol. ***4,*** 371-2
2. Bowers, G. et al. (1981) Clin. Chem. ***27,*** 135-43

Cat.No.	Size
30770.02	25 g
30770.03	100 g

NMA

see 29452 Methylnadic anhydride, page 70

Non-Detergent Sulfobetaine 201

see 20762 NDSB-201, page 74

Nonenylsuccinic anhydride pure

(NSA; ERL-4206 hardener)

$C_{13}H_{20}O_3$ ♦ M_r 224.3 ♦ CAS [28928-97-4]

WARNING
H315-H319-H335 ♦ EINECS 242-317-8 ♦ WGK 1 ♦ HS 29171980

Especially purified for electron microscopy. Hardener component for SPURR embedding.

Cat.No.	Size
30812.01	250 ml

Norit® A pract.

(Activated charcoal)
CAS [64365-11-3]

HS 38021000

Activated charcoal from peat. Acid washed.

Norit = registered trademark of Norit B.V.

Cat.No.	Size
30890.01	100 g
30890.02	1 kg

Novobiocin·Na-salt research grade

$C_{31}H_{35}N_2O_{11}{\cdot}Na$ ♦ M_r 634.6 ♦ CAS [1476-53-5]

WARNING
H317-H319 ♦ EINECS 216-023-6 ♦ WGK 1 ♦ HS 29419000
Storage temperature +2 °C to +8 °C

Coumarin-glycoside antibiotic. Inhibitor of bacterial DNA gyrase (1). Mechanism of action (2).
Antagonist of heat shock protein 90 (Hsp90) (3, 4, 5).

Assay (from N)	min. 95.0 %
[α] 24 °C/D (c=2.5 % in water)	-34.0 ° to -38.0 °
MP	210 - 220 °C

References:
1. Cozzarelli, N.R. (1980) Science ***207,*** 953-60
2. Staudenbauer, W.L. (1975) J. Mol. Biol. ***96,*** 201-5
3. Marcu, M.G. et al. (2000) J. Natl. Cancer Inst. ***92***, 242-8
4. Marcu, M.G. et al. (2000) J. Biol. Chem. ***275***, 37181-6
5. Sreedhar, A.S. et al. (2003) J. Biol. Chem. ***278***, 35231-40

Cat.No.	Size
30995.01	1 g

NSA

see 30812 Nonenylsuccinic anhydride, page 76

NTA-Agarose Resins

see 42139 SERVA Ni-NTA Agarose Resin, page 107

dNTP PCR Mix, solution 10 mM molecular biology grade

HS 38220000
Storage temperature -15 °C to -25 °C ✻✻

Ready to use dNTP mixture for the Tth DNA polymerase and Taq DNA polymerase.
Mixture of dATP, dCTP, dGTP, dTTP, 10 mM of each, free of DNase, RNase, Phosphatase and Protease. Absolutely free of substances that may inhibit PCR, e.g. pyrophosphates etc. Ultrapure dNTPs qualified for use in standard and long PCR, RT-PCR, manual and automated sequencing, cDNA synthesis, DNA footprinting and labelling reactions.
Every lot is tested in a 30 kb PCR and real-time PCR reaction.

Purity	> 98.0 %
pH	8.5 ±0.1

Cat.No.	Size
39712.01	0,2 ml
39712.02	5x 0,2 ml

dNTPs Set, solution 100 mM molecular biology grade

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

Set of 100 mM solutions of each dATP, dCTP, dGTP, dTTP.
Free of DNase, RNase, Phosphatase and Protease. Absolutely free of substances that may inhibit PCR, e.g. pyrophosphates etc.
Ultrapure dNTPs qualified for use in standard and long PCR, RT-PCR, manual and automated sequencing, cDNA synthesis, DNA footprinting and labelling reactions. Every lot is tested in a 30 kb PCR and real-time PCR reaction.
0.25 ml correspond to 25 µmol.

Purity	> 99.0 %
pH	8.5 ±0.2

Cat.No.	Size
39705.01	4 x 250 µl
39705.02	4 x 1 ml

Nycodenz®, 60 % (w/v) solution in water

(NycoPrep® Universal)
$C_{19}H_{26}I_3N_3O_9$ ♦ M_r 821.1

HS 38220000
Storage temperature +2 °C to +8 °C

Non-ionic density gradient medium, similar to the former Metrizamide but less toxic. Mammalian cells and viruses isolated in Nycodenz® gradients potentially retain better functional integrity than in Metrizamide gradients. Nycodenz® is suitable for the isolation of a wide range of different cell types, viruses, subcellular organelles and other membrane compartments. Gradient preparation and resolution of cellular organelles are largely similar with both media. In contrast to Metrizamide, solutions of Nycodenz® can be sterilized by autoclaving.

Density (20 °C)	1.310 ± 0.002 g/ml
Osmolarity	580 ± 10 mOsm
Refractive index (20 °C)	1.4273 ± 0.0003

Nycodenz + Nycoprep = registered trademarks of Axis-Shield, Norway.

References:
1. Johne, R. & Muller, H. (2004) J. Virol. ***78***, 930-7
2. Whiteley, A.S. et al. (2003) J. Microbiol. Meth. ***54***, 257-67
3. Masuya, M et al. (2003) Blood ***101***, 2215-18
4. Schumacher, M.M. et al. (2002) J. Biol. Chem. ***277***, 51033-42
5. Jadot, M. et al. (2201) Eur. J. Biochemistry ***268***, 1392-99
6. Miller, K.E. & Sheetz, M.P. (2000) J. Biol. Chem. ***275***, 2598-2606
7. Wischmann, B. et al. (1999) Plant. Physiol. ***119***, 455-62

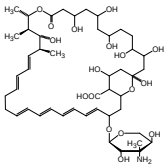
Cat.No.	Size
31000.01	50 ml

NycoPrep® Universal

see 31000 Nycodenz®, 60 % (w/v) solution in water, page 77

Nystatin min. 4 400 units/mg research grade, Ph. Eur.

(Fungicidin; Mycostatin)
$C_{47}H_{75}NO_{17}·2H_2O$ ♦ M_r 926.13 ♦ CAS [1400-61-9]



EINECS 215-749-0 ♦ HS 29419000
Storage temperature +2 °C to +8 °C

Polyene macrolide antibiotic isolated from *Streptomyces noursei*. Used in animal and plant cell cultures against fungi and yeasts. Forms complexes with ergosterol in the fungal cell membrane resulting in the formation of pores and loss of ions and small molecules.

References:
1. Chong, C.N. et al. (1970) Tetrahedron Lett. ***59,*** 5145-8
2. Coutinho, A. et al. (2004). Biophys. J. ***87***, 3264-76
3. Leifert, C. et al. (1991) J. Microbiol. Biotechnol. ***7***, 452-69
4. Constabel, F. & Shyluk, J.P. (1994): Plant Cell and Tissue Culture, eds. I.K. Vasil a. T.A. Thorpe; pp 3-15. Springer Netherlands
5. Banu, K.S. et al. (2001) Endocrine Pathol. ***12,*** 315-27
6. Wang, A. et al. (2005) Appl. Environ. Microbiol. ***71***, 8397-401
7. Funkenstein, B. et al. (2006) Tissue and Cell ***38***, 399-415

Cat.No.	Size
29870.01	1 g
29870.02	10 g

ONPG

see 30710 2-Nitrophenyl-β-D-galactopyranoside, page 76

Oramix L30

see 27570 N-Lauroylsarcosine·Na-salt, page 63

Orthophosphoric-monoester phosphohydrolase (alkaline optimum)

see 32471 Alkaline Phosphatase from calf intestine ca. 3000 U/mg protein (ca. 60 U/µl), page 9

Osmic acid

see 31253 Osmium tetroxide, page 77

Osmium (VIII) oxide

see 31253 Osmium tetroxide, page 77

Osmium tetroxide for electron microscopy

(Osmium (VIII) oxide; Osmic acid)
OsO_4 ♦ M_r 254.2 ♦ CAS [20816-12-0]

DANGER
H300-H310-H314-H330 ♦ MAK/TRK 0.0002 ml/m³, 0.0021 mg/m³ ♦ EG-Index 076-001-00-5 ♦ GGVSE/ADR 6.1 I UN2471 ♦ IATA 6.1 I UN2471 ♦ EINECS 244-058-7 ♦ WGK 3 ♦ HS 28259085

Used as a post fix and stain of tissues in scanning and transmission electron microscopy.

Osmium tetroxide reacts with lipids in tissue by oxidation of unsaturated bonds of fatty acids, which adds density and contrast to biological samples. In normal tissues, presence of osmium results in intense black staining. In addition, it is used in electron microscopy for enhancing staining.

Assay min. 99.9 %

Cat.No.	Size
31251.04	250 mg
31251.03	1 g

Osmium tetroxide 4 % solution for electron microscopy

(Osmic acid; Osmium (VIII) oxide)
OsO_4 ♦ M_r 254.2

DANGER
H302-H312-H315-H318-H332-H335 ♦ MAK/TRK 0.0002 ml/m³, 0.0021 mg/m³ ♦ WGK 3 ♦ HS 28259085

40 mg/ml in water.

Cat.No.	Size
31253.01	2 ml
31253.02	10x 2 ml
31253.03	10 ml
31253.04	5x 10 ml

Ovalbumin

see 11842 Albumin Egg, page 9

2-Oxetanone

see 33672 β-Propiolactone, page 84

10.32 Packing Connector

HS 38220000

Luer/Thread connector for packing FliQ columns.

Cat.No.	Size
42282.01	1 piece

Pancreatopeptidase E

see 20930 Elastase from porcine pancreas min. 200 U/mg, page 37

PaperPool

HS 90272000

Tray for soaking the electrode wicks in buffer (up to 80 ml) used for all flatbed gels.

Cat.No.	Size
HPE-A02	1 piece

Paraffin oil, low viscosity

see 39776 Mineral oil, page 70

Paraffin oil, low viscosity

see 14500 Bayol F, page 14

Parafilm™, 0.5 m x 15 m

HS 39209990

Roll: width 50 cm (20“), length 15 m (50 ft). Supplied in sturdy cardboard container.

Parafilm = registered trademark of American Can Co.

Cat.No.	Size
90300.01	1 roll

Parafilm™, 0.1 m x 38 m

HS 39209990

Roll: width 10 cm (4“), length 38 m (125 ft). Supplied in dispenser box.

Parafilm = registered trademark of American Can Co.

Cat.No.	Size
90310.01	1 box
90310.02	6 boxes

Paraformaldehyde pure

(Polyoxymethylene)
$(CH_2O)_n$ ♦ M_r $(30.0)_n$ ♦ CAS [30525-89-4]

WARNING
H228-H302-H315-H317-H319-H332-H335-H351 ♦ GGVSE/ADR 4.1 III UN2213 ♦ IATA 4.1 III UN2213
WGK 2L ♦ HS 2912600

Paraformaldehyde is a cross-linking fixative used in histology, light and electron microscopy and flow cytometry. It is changed to formaldehyde by heating and by adding small amount of sodium hydroxide.
When the samples are to be used in fluorescence studies, paraformaldehyde is recommended as fixative. In histology it is generally preferred over other fixatives as the others result in more silver grains on the tissues.

Asssay (titr.) min. 95.0 %

Cat.No.	Size
31628.01	100 g
31628.02	500 g

PBS Buffer (10x) sterile

(Phosphate buffered salt solution)
HS 38220000

10 x concentrated phosphate buffered salt solution, autoclaved.
PBS buffer is a widely used buffer in protein detection systems like Western Blot analysis, ELISAs and other enzyme assays, for immunocytological and immunohistological detection, *in situ* hybridization, apoptosis assays and staining of nuclei. 1x PBS is as well often used as protein solvent and diluent.

Composition:

NaCl (cat. no. 30183)	1.37 M
KCl (cat. no. 26868)	27 mM
Na_2HPO_4 (cat. no. 30200)	100 mM
KH_2PO_4 (cat. no. 26870)	20 mM
pH	7.2 - 7.6

Cat.No.	Size
42595.01	1 L

PBST Buffer (10x) sterile

(Phosphate buffered salt solution)
HS 38220000

10 x concentrated phosphate buffered salt solution with 0.5 % Tween 20, autoclaved.
PBST buffer is a widely used buffer in protein detection systems like Western Blot analysis, ELISAs and other enzyme assays, for immunocytological and immunohistological detection, in situ hybridization, apoptosis assays and staining of nuclei.

Composition:

NaCl (cat. no. 30183)	1.37 M
KCl (cat. no. 26868)	27 mM
Na_2HPO_4 (cat. no. 30200)	100 mM
KH_2PO_4 (cat. no. 26870)	20 mM
pH	7.2 - 7.6

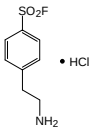
Cat.No.	Size
42597.01	1 L

PDT disulfonate

see 21326 Ferrozine®, page 41

PEFABLOC® SC

(4-(2-Aminoethyl)benzenesulfonylfluoride·HCl)
$C_8H_{10}NSO_2F$·HCl ♦ M_r 239.7 ♦ CAS [30827-99-7]



DANGER
H314 ♦ GGVSE/ADR 8 II UN3261 ♦ IATA 8 II UN3261 ♦ HS 29214900
Storage temperature +2 °C to +8 °C

Protease inhibitor with major advantages over other inhibitors: Excellent stability at neutral pH. Ready solubility in aqueous buffers. Broad specificity for serine proteases. Minimum effect on cell growth.

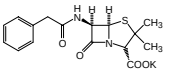
Purity (HPLC) min. 95.0 %

Pefabloc = registered Trademark of Pentapharm. Ltd.

Cat.No.	Size
31682.01	100 mg
31682.02	500 mg

Penicillin G·K-salt research grade, Ph. Eur.

(Benzylpenicillin potassium)
$C_{16}H_{17}N_2O_4S$·K ♦ M_r 372.5 ♦ CAS [113-98-4]



WARNING
H317 ♦ EINECS 204-038-0 ♦ WGK 1 ♦ HS 29411000
Storage temperature +2 °C to +8 °C

β-Lactam antibiotic. Inhibitor of bacterial cell wall synthesis. Binds to the active site of a transpeptidase which is involved in the synthesis of murein, a major component of the bacterial cell wall. Frequently used in cell culture media to prevent the growth of contaminating bacteria (2), often in combination with streptomycin (3 - 5).

Assay (HPLC) min. 96.0 %

References:

1. Keller, N.P. et al. (2005) Nature Reviews Microbiology ***3***, 937-47
2. Wang, Z. et al. (2000) Anal. Chem. ***72***, 2001-7
3. Haraguchi, N. et al. (2006) Stem Cells ***24***, 506-13
4. Souza, G.R. Et al. (2006) PNAS ***103***, 1215-20
5. Pedersen, I.M. Et al. (2007) Nature ***449***, 919-22

Cat.No.	Size
31749.04	25 g
31749.03	100 g

Pepsin porcine ca. 15 milliAnson units/mg 2xcryst. lyophil.

(Pepsin A)
EC 3.4.23.1 ♦ M_r ca. 36 000 ♦ CAS [9001-75-6]

DANGER
H315-H319-H334-H335 ♦ EG-Index 647-008-00-6 ♦ EINECS 232-629-3 ♦ WGK 1 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

For the degradation of proteins. Pepsin preferentially hydrolyzes those peptide linkages which involve the amino group contributed by the aromatic amino acids phenylalanine, tyrosine and tryptophan.

Unit definition: 1 milliAnson unit is equivalent to 1 µmole of Folin-positive amino acids calculated as tyrosine, released from denatured hemoglobin per minute at 37 °C, pH 2.0.

Activity in other units: ca. 0.015 PU^{Hb}/mg („Pepsin-Unit" according to Anson (1, 2). Expressed in millimole tyrosine, therefore 1 PU^{Hb} = 1000 milliAnson units.)

References:
1. Anson, M.L. (1938) J. Gen. Physiol. ***22,*** 79-98
2. Ryle, A.P. (1984) Methods of Enzymatic Analysis, (Bergmeyer, H.U. ed.) 3rd Ed. vol. ***5,*** 223-38
3. Northrop, J.H. et al. (1948) Crystalline Enzymes 2nd ed., Columbia University Press, 305-8

Cat.No.	Size
31820.01	1 g
31820.02	5 g

Pepstatin A

(Isovaleryl-L-valyl-L-valyl-4-amino-3-hydroxy-6-methylheptanoyl-L- alanyl-4-amino-3-hydroxy-6-methylheptanoic acid; X-Val-Val-statyl-Ala-statin)
$C_{34}H_{63}N_5O_9$ ♦ M_r 685.9 ♦ CAS [26305-03-3]

EINECS 247-600-0 ♦ HS 29241900
Storage temperature +2 °C to +8 °C

Inhibitor of aspartic proteases, e.g. pepsin, renin, cathepsin D (1 - 3) and of retroviral proteases (4 - 7).

Assay (HPLC) min. 98.0 %

References:
1. Umezawa, H. (1976) Meth. Enzymol. ***45,*** 689-93
2. McCaffrey, G. & Jamieson, J.C. (1993) Comp. Biochem. Physiol. ***104,*** 91-4
3. Bailly, E. et al. (1991) Exp. Parasitol. ***72,*** 278-84
4. Baum, E.Z. et al. (1990) Proc. Natl. Acad. Sci. USA ***87,*** 10023-7
5. Grinde, B. et al. (1989) AIDS Res. Hum. Retroviruses ***5,*** 269-74
6. von der Helm, K. et al. (1989) FEBS Lett. ***247,*** 349-52
7. Katoh, I. et al. (1987) Nature ***329,*** 654-6

Cat.No.	Size
52682.02	5 mg
52682.03	25 mg

Peptone from casein enzymatic

HS 35040090

High quality source of peptides and amino acids produced by enzymatic digestion of casein. Refined hydrolysate that has been specially processed to increase solubility. Suitable as nutrient for laboratory media and industrial fermentation.

Total nitrogen (TN)	min. 10.0 %
Amino nitrogen (AN)	min. 3.9 %
pH (2 % solution)	6.5 - 7.5

Cat.No.	Size
48600.04	250 g
48600.02	1 kg

Peptone PLUS from casein enzymatic

HS 35040090

Manufactured by controlled enzymatic hydrolysis of casein. Contains a mix of peptides, free amino acids and growth factors. Peptide average molecular weight: ca. 500 Dalton. For analytical microbiology and industrial fermentation.

Total nitrogen	12.5 - 13.5 %
Amino nitrogen	3.0 - 4.0 %
AN/TN x 100	22 - 33
Solubility (5 % in water)	complete
pH (5 % solution)	6.5 - 7.5

Cat.No.	Size
48605.02	1 kg

Peptone from meat pancreatic, Ph. Eur.

HS 35040090

Certificate of Suitability. Produced by controlled enzymatic hydrolysis of animal tissues. Contains a mix of peptides, free amino acids and growth factors. Peptide average molecular weight: ca. 1000 Dalton. Recommended as source of organic nitrogen in media for analytical microbiology and industrial fermentation.

Total nitrogen	15.0 - 16.0 %
Amino nitrogen	3.0 - 4.0 %
AN/TN x 100	18 - 26
Solubility (5 % in water)	complete
pH (5 % solution)	5.0 - 6.0

Cat.No.	Size
48619.02	1 kg

Peroxidase from horseradish min. 1000 U/mg lyophil.

(POD; HRP; Donor: hydrogen-peroxide oxidoreductase)
EC 1.11.1.7 ♦ M_r ca. 40 000 ♦ CAS [9003-99-0]

DANGER
H334 ♦ EINECS 232-668-6 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

For the determination of peroxide (1). Used as an indicator enzyme in reactions where peroxide is produced (2). For labelling antibodies in ELISA (3, 4). RZ (= A 403/A 275) = 3.0.

Unit definition: 1 U catalyzes the decomposition of 1 µmole hydrogen peroxide per minute at 25 °C, pH 7.0; reaction coupled with phenol-aminoantipyrine (5).

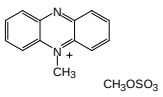
Activity in other units: min. 250 purpurogallin units/mg
(1 purpurogallin unit catalyzes the oxidation of 1 mg pyrogallol to purpurogallin in 20 seconds at 20 °C and pH 6.0. The purpurogallin is extracted and determined spectrophotometrically at 420 nm (6). 1 mg purpurogallin requires 13.5 µmole peroxide, 1 purpurogallin unit corresponds to the decomposition of 12 µmoles peroxide at 25 °C.)

References:
1. Meiattini, F. (1985) Methods of Enzymatic Analysis, (Bergmeyer, H.U., ed.) 3rd Ed. vol. ***7,*** p. 566-71
2. Bergmeyer, H.U. (1983) Methods of Enzymatic Analysis, 3rd Ed. vol. ***2***, p. 267-8
3. Johnson Jr., R.B. (1980) J. Immunoassay ***1,*** 27-37
4. Harlow & Lane (1988) Antibodies, Cold Spring Harbor Laboratory Press, p. 349
5. Gallati, H. (1977) J. Clin. Chem. Clin. Biochem. ***15,*** 699-703
6. Polis, B.D. & Shmukler, H.W. (1963) J. Biol. Chem. ***201,*** 457-500

Cat.No.	Size
31941.02	10 mg
31941.03	100 mg

Phenazine·methosulfate pure

(PMS; N-Methylphenazinium methylsulfate)
$C_{13}H_{11}N_2{\cdot}CH_3SO_4$ ♦ M_r 306.34 ♦ CAS [299-11-6]



WARNING
H315-H319-H335 ♦ EINECS 206-072-1 ♦ WGK 1 ♦ HS 29339980
Storage temperature +2 °C to +8 °C

Electron coupler, transfers electrons from NADH to tetrazolium salts, e.g. MTT, and thus makes NAD reductions visible.

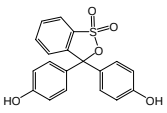
Assay (Titr.) min. 98.0 %

References:
1. Faber, E. et al. (1958) J. Histochem. Cytochem. ***6,*** 389
2. Altman, F.P. Biochem. J. ***125,*** 21P-22P

Cat.No.	Size
32030.01	1 g
32030.02	10 g

Phenol Red research grade

(Phenylsulfonphthalein)
$C_{19}H_{14}O_5S$ ♦ M_r 354.4 ♦ CAS [143-74-8]



EINECS 205-609-7 ♦ WGK 2L ♦ HS 29349990

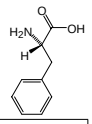
Indicator pH 6.5 - 8.0. Tested for use in tissue culture.

λmax. 0.0001 % in 0.01 M NaOH 558 - 562 nm

Cat.No.	Size
32095.01	5 g

L-Phenylalanine research grade, Ph. Eur.

(Phe; L-2-Amino-3-phenylpropionic acid)
$C_9H_{11}NO_2$ ♦ M_r 165.19 ♦ CAS [63-91-2]



EINECS 200-568-1 ♦ WGK 1L ♦ HS 29224985

Assay (titr.) 98.5 - 101.0 %

Cat.No.	Size
32191.02	100 g

Phenylmethylsulfonyl fluoride research grade

(PMSF; Benzylsulfonyl fluorid; α-Toluenesulfonyl fluoride)
$C_7H_7FO_2S$ ♦ M_r 174.19 ♦ CAS [329-98-6]

DANGER
H301-H314 ♦ GGVSE/ADR 8 II UN2923 ♦ IATA 8 II UN2923 ♦ EINECS 206-350-2 ♦ WGK 1 ♦
HS 29049095

Inhibits trypsin and chymotrypsin (1). Non-inhibitory to cholineesterase. Less toxic than diisopropylfluorophosphate (2). Inactivation of PMSF in buffer (3).

Assay (GC) min. 99.0 %
MP 90 - 94 °C

References:

1. Prouty, W.F. & Goldberg, A.L. (1972) J. Biol. Chem. ***247,*** 3341-52
2. Fahrney, D.E. & Gold, A.M. (1963) J. Am. Chem. Soc. ***85,*** 997-1009
3. James, G.T. (1978) Anal. Biochem. ***86,*** 574-9

Cat.No.	Size
32395.02	5 g
32395.03	25 g

Phosphatase-Inhibitor-Mix I, powder

DANGER
H302-H314-H361 ♦ WGK 1 ♦ HS 38220000

Mixture of 5 water-soluble inhibitors against acid and alkaline phosphatases, protein phosphatases 2A, 2B and 2C, phosphoprotein phosphatase, and protein-tyrosine phosphatase.
Contains imidazole, sodium fluoride, sodium molybdate, sodium-ortho-vanadate, and sodium tartrate.
The content of 1 vial dissolved in 1 ml water will give a 100-fold concentrate suitable for the treatment of 100 ml tissue extract.

Cat.No.	Size
39050.01	1 vial
39050.02	5 vials
39050.03	10 vials

Phosphatase-Inhibitor-Mix II, solution

HS 38220000
Storage temperature +2 °C to +8 °C

Mixture of 7 different inhibitors dissolved in water, suitable for the inhibition of acid and alkaline phosphatases, protein phosphatases 2A, 2B and 2C, phosphoprotein phosphatase, protein-tyrosine phosphatase, and serine/threonine phosphatase.
Contains EDTA, ß-glycerophosphate-disodium salt, imidazole, sodium fluoride, sodium molybdate, sodium-ortho-vanadate, and sodium tartrate.
1 ml solution is suitable for the treatment of 100 ml tissue extract.

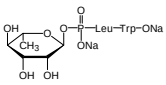
Cat.No.	Size
39055.01	1 vial
39055.02	5 vials
39055.03	10 vials

Phosphate buffered salt solution

see 42595 PBS Buffer (10x), page 78

Phosphoramidon research grade

(N-(α-Rhamnopyranosyloxyhydroxyphosphinyl)-L-Leu-L-Trp·Na· $2H_2O$)
$C_{23}H_{32}N_3O_{10}P{\cdot}Na_2$ ♦ M_r 587.5 ♦ CAS [119942-99-3]



HS 29419000
Storage temperature +2 °C to +8 °C

Inhibitor for thermolysin and neutral endopeptidase-24.11 (ANP Degradation Enzyme). Inhibits the activity of ‚Endothelin Converting Enzyme' (3 - 9).
Microbial product.
Store dry and protect from light!

Assay (HPLC) min. 90.0 %

References:

1. Suda, H. et al. (1973) J. Antibiotics ***26,*** 621
2. Roques, B.P. & Beaumont, A. (1990) Trends Pharmacol. Sci. ***2,*** 245-9
3. Gettins, P. (1988) J. Biol. Chem. ***263,*** 10208-11
4. Ikegawa, R. et al. (1990) Biochem. Biophys. Res. Commun. ***171,*** 669-75
5. Rae, G.A. et al. (1993) Eur. J. Pharmacol. ***240,*** 113-9
6. Patel, K.V. & Schrey, M.P. (1995) Br. J. Cancer ***71,*** 442-7
7. Fawzi, A.B. et al. (1994) Anal. Biochem. ***222,*** 342-50
8. Umekawa, T. et al. (1994) J. Pharmacol. Exp. Ther. ***269,*** 860-6
9. Ohnaka, K. et al. (1993) J. Biol. Chem. ***268,*** 26759-66

Cat.No.	Size
32753.01	5 mg

o-Phthalaldehyde analytical grade

(o-Phthaldialdehyde)
$C_8H_6O_2$ ♦ M_r 134.14 ♦ CAS [643-79-8]

DANGER
H301-H314-H317-H400 ♦ GGVSE/ADR 8 II UN2923 ♦ IATA 8 II UN2923 ♦ EINECS 211-402-2 ♦ WGK 3 ♦ HS 29122900
Storage temperature +2 °C to +8 °C

Especially purified for fluorimetric histidine determination (1). Reagent for amines and alkaloids (2) as well for amino acids (3, 4) and peptides (5, 6).

Assay (GC) min. 99.0 %
MP 54 - 57 °C

References:

1. Gerber, D.A. (1970) Anal. Biochem. ***34,*** 500-4
2. Wachsmuth, H. et al. (1960) Z. Anal. Chem. ***176,*** 77
3. Roth, M. & Hampai, A. (1973) J. Chromatogr. ***83,*** 353-56
4. Benson, J.R. & Hare, P.E. (1975) Proc. Natl. Acad. Sci. USA ***72,*** 619-22
5. Mendez, E. & Gavilanes, J.G. (1976) Anal. Biochem. ***72,*** 473-79
6. Svedas, V.K. et al. (1980) Anal. Biochem. ***101,*** 188-95

Cat.No.	Size
32800.01	5 g
32800.02	25 g
32800.03	100 g

PMSF

see 32395 Phenylmethylsulfonyl fluoride, page 80

PNGase F, recombinant solution

M_r 36 000

HS 35079090
Storage temperature -15 °C to -25 °C

Concentration: 1000 u/µl (2.0 mg/ml), supplied in 1x PBS
PNGase F is a mutant recombinant glycosidase from *Flavobacterium meningosepticum* and expressed and purified from *E. coli*. The enzyme catalyzes the cleavage of N-linked oligosaccharides between the innermost GlcNAc and asparagine residues of high mannose, hybrid and complex oligosaccharides from N-linked glycoproteins.
The proprietary changes made to PNGase F have been shown to have unique characteristics when compared to other commercially-available sources of PNGase F:

- Does not need a denaturing step
- Works on native glycoproteins and serum glycoproteins in only minutes at room temperature
- Leads to a more complete glycan release compared to other commercially-available enzymes
- Especially designed and tested for mass spectrometry imaging of tissue samples

Unit definition: Achieves complete deglycosylation of 10 µg of RNase B incubated in 1x PBS with 1 µl of PNGase F for 5 - 10 min at 37 °C or room temperature.

Cat.No.	Size
36404.01	50 µl

PNGase F, recombinant lyophilized

M_r 36 000

HS 35079090

Concentration after reconstitution: 1000 u/µl (2.0 mg/ml) in 50 µl H_2O dest.
PNGase F is a mutant recombinant glycosidase from *Flavobacterium meningosepticum* and expressed and purified from *E. coli*. The enzyme catalyzes the cleavage of N-linked oligosaccharides between the innermost GlcNAc and asparagine residues of high mannose, hybrid and complex oligosaccharides from N-linked glycoproteins.
The proprietary changes made to PNGase F have been shown to have unique characteristics when compared to other commercially-available sources of PNGase F:

- No need for refrigerated transport, storage at room temperature
- Does not need a denaturing step
- Works on native glycoproteins and serum glycoproteins in only minutes at room temperature
- Digestion leads to a more complete glycan release as compared to other commercially-available enzymes
- Especially designed and tested for mass spectrometry imaging of tissue samples

Unit definition: Achieves complete deglycosylation of 10 µg of RNase B incubated in 1x PBS with 1 µl of PNGase F for 5 - 10 min at 37 °C or room temperature.

Cat.No.	Size
36405.01	100 µg

Poly-L-lysine 70 000·HBr research grade

$(C_6H_{14}N_2O_2 \cdot HBr)_n$ ♦ M_r ca. 70 000 - 150 000 ♦ CAS [25988-63-0]

WGK 1 ♦ HS 35040090
Storage temperature -15 °C to -25 °C

Poly-L-lysine is a positively charged amino acid polymer with approximately one HBr per lysine residue, which makes it soluble in water.
The substance is a nonspecific attachment factor for cells. It promotes cell adhesion to solid substrates by enhancing electrostatic interaction between negatively charged ions of the cell membrane and positively charged ions on the culture surface.
For coating of a 25 cm^2 culture dish it is recommended to use 1.0 ml of a 0.1 mg/ml solution. Remove the solution after 5 minutes through aspiration and thoroughly rinse the surface. Let dry for two hours before introducing cells and medium.
Can also be used for coating of glass coverslips.

Cat.No.	Size
33225.01	25 mg

Polyamide-6-powder research grade

(Polycaprolactam; Perlon; Nylon-6)
HS 39081000

For column chromatography.

Cat.No.	Size
33143.02	100 g

Polyethylene glycol 4000 Ph. Eur., USP

(PEG 4000; Macrogol 4000; Macrogol)
CAS [25322-68-3]

EINECS 500-038-2(NLP) ♦ WGK 1L ♦ HS 34042000

Degree of polymerization ca. 70 - 80.
Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.

Average M_r	3600 - 4400
Hydroxyl value	26.0 - 31.0
Heavy metals (Pb)	max. 5 ppm

Cat.No.	Size
33136.01	500 g
33136.02	5 kg

Polyethylene glycol 6000 Ph. Eur., USP

(PEG 6000; Macrogol 6000)
CAS [25322-68-3]

EINECS 500-038-2(NLP) ♦ WGK 1L ♦ HS 34042000

Degree of polymerization ca. 140 - 170.
Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.

Average M_r	5400 - 6600
Hydroxyl value	17.0 - 21.0

Cat.No.	Size
33137.01	500 g
33137.02	5 kg

Polyethylene glycol 6000 molecular biology grade

(PEG 6000; Macrogol 6000)
CAS [25322-68-3]

EINECS 500-038-2(NLP) ♦ WGK 1L ♦ HS 34042000

Degree of polymerization ca. 140 - 170.
DNase/RNase not detected. Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.

Average M_r	5400 - 6600

Cat.No.	Size
39778.01	500 g

Polyethylene glycol 20 000 Ph. Eur., USP

(PEG 20000; Macrogol 20000)
CAS [25322-68-3]

EINECS 500-038-2(NLP) ♦ WGK 1L ♦ HS 34042000

Degree of polymerization ca. 400 - 500.
Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.

Average M_r	16 000 - 25 000
Hydroxyl value	4.5 - 7.0

Cat.No.	Size
33138.01	500 g
33138.02	5 kg

Polyethylene glycol 40 000 Ph. Eur., USP

(PEG 35000; Macrogol 35000)
CAS [25322-68-3]

EINECS 500-038-2(NLP) ♦ WGK 1L ♦ HS 34042000

Degree of polymerization ca. 800 - 900.
Polyethylene glycol for chromatography, histology, microscopy and for special biochemical purposes.

Heavy metals (Pb)	max. 5 ppm

Cat.No.	Size
33139.01	500 g
33139.02	5 kg

Polyethylenimine 50 % solution in water pract.

(Polymin P)

WARNING
H302-H317-H319-H411 ♦ GGVSE/ADR 9 III UN3082 ♦ IATA 9 III UN3082 ♦ WGK 2 ♦ HS 39019090

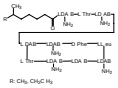
Crosslinked polyethylenimine is used as enzyme carrier.

Non-volatile matter	48.0 - 52.0 %

Cat.No.	Size
33141.03	100 ml
33141.04	500 ml

Polymyxin-B·sulfate research grade, Ph. Eur.

(Aerosporin)
CAS [1405-20-5]



WARNING
H302 ♦ HS 38210000
Storage temperature +2 °C to +8 °C

Mixture of the sulfates of polypeptides produced by the growth of certain strains of *Bacillus polymyxa*, the main component being Polymyxin B1. Assay (HPLC): sum of Polymyxins B1, B2, B3 and B1-I min. 80 %; Polymyxin B3 max. 6 %; Polymyxin B1-I max. 15 % (all data based on dried substance). Peptide antibiotic that mainly acts against gram negative bacteria. Causes changes in membrane structure resulting in leakage of small molecules. Used in cell culture media against the contamination of bacteria or in other media for suppression of pathogenic germs (2,3). Inhibitor of the mitogenic response to lipopolysaccharide (4).

References:

1. Storm, D.R. et al. (1977) Ann. Rev. Biochem. ***46,*** 723-63
2. Kwak, B. et al. (2000) Nature Medicine ***6***, 1399-1402
3. Alvarez-Dolado, M. et al. (2003) Nature ***425***, 968-73
4. Jacobs, D.M. & Morrison, D.C. (1977) J. Immunol. ***118***, 21-7
5. Asea, A. et al. (2000) Nature Medicine ***6***, 435-42

Cat.No.	Size
47976.03	1 g

Polyoxyethylene monolauryl ether

see 15230 Brij 35™, page 20

Polysorbate 20

see 39796 Tween® 20, page 140

Polysorbate 80

see 37475 Tween® 80, page 140

Polysorbate 80 VG Ph. Eur., USP/NF

(Montanox® 80; Tween® 80; Polyoxyethylene sorbitane monooleate, n ca. 20)
M_r ca. 1300 ♦ CAS [9005-65-6]

EINECS 500-019-9 ♦ WGK 1L ♦ HS 34021300

Polysorbate 80, as well known as Tween® 80, is a non-ionic detergent used for selective protein extraction and isolation of nuclei from mammalian cell lines and as a stabilizer and emulsifier.
The fatty acids of this detergent are of vegetable origin.

HLB	15.0
CMC	1 x 10^{-5} mol/l
d25 °C	1.06 - 1.09
Acid number	max. 2.0 mg/KOH/g
Hydroxyl number	65 - 80 mg/KOH/g
Saponification number	45 - 55 mg/KOH/g
Peroxide value	max. 5 meq/kg
Heavy metals (Pb)	max. 10 ppm

Montanox = registered trademark of Seppic, France.

References:

1. Sato, M. et al. (1989) Int. J. Biochem. ***21,*** 751-4
2. Masaki, S. et al. (1990) Microbiol. Immunol. ***34,*** 653-63
3. Okuno, S. & Fujisawa, H. (1990) Biochim. Biophys. Acta ***1038,*** 204-8

Cat.No.	Size
33116.01	500 g

Polyvinylpyrrolidone 15 pract.

M_r ca. 10000 ♦ CAS [9003-39-8]

WGK 1 ♦ HS 39059990

Polyvinylpyrrolidone 15 is a water-soluble polymer used in tissue and biomedical engineering, pharmaceutical applications and cosmetics.

Intrinsic viscosity (K-value) ca. 15.0

Cat.No.	Size
33422.01	100 g
33422.02	1 kg

Polyvinylpyrrolidone 30

M_r ca.40 000 ♦ CAS [9003-39-8]

HS 39059990

Polyvinylpyrrolidone 30 is a water-soluble polymer used in tissue and biomedical engineering, pharmaceutical applications and cosmetics.

Intrinsic viscosity (K-value) 27.0 - 33.0

Cat.No.	Size
33421.01	100 g
33421.02	1 kg

Polyvinylpyrrolidone 25 pract., Ph. Eur., USP

(Collidon; Plasdone)
M_r ca. 29000 ♦ CAS [9003-39-8]

WGK 1 ♦ HS 39059990

Polyvinylpyrrolidone 25 is a water-soluble polymer used in tissue and biomedical engineering, pharmaceutical applications and cosmetics.

Intrinsic viscosity (K-value) 22.5 - 27.0
Heavy metals (Pb) max. 10 ppm

Cat.No.	Size
33420.02	250 g
33420.03	1 kg

Polyvinylpyrrolidone 90 pract.

M_r ca. 1 100000 ♦ CAS [9003-39-8]

WGK 1 ♦ HS 39059990

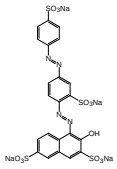
Polyvinylpyrrolidone 90 (PVP 90) is used as cryoprotectant, in hybridization buffers like Denhardt's, for RNA isolation from plants rich in polyphenols, in tissue and biomedical engineering.

Intrinsic viscosity (K-value) 81.0 - 97.0

Cat.No.	Size
33410.01	100 g
33410.02	1 kg

Ponceau S

(Acid Red 112; Fast Ponceau 2B)
C.I.27195 ♦ $C_{22}H_{12}N_4O_{13}S_4 \cdot Na_4$ ♦ M_r 760.61 ♦
CAS [6226-79-5]



WARNING
H315-H319-H335 ♦ EINECS 228-319-2 ♦ WGK 2L ♦
HS 29270000

For reversible protein staining on membranes and for microscopy.

λ max. 0.001 % in water	517- 523 nm
Water (KF)	max. 15.0 %
A 1 cm/0.001 % in water/λ max.	min. 0.355
ελmax in water	min. 27 000
TLC	corresponds

Cat.No.	Size
33429.01	5 g
33429.02	25 g

Ponceau S solution for electrophoresis (0.2 %)

DANGER
H314-H412 ♦ GGVSE/ADR 9 III UN3082 ♦ IATA 9 III UN3082 ♦
WGK 2 ♦ HS 38220000

In 3 % TCA. For reversible protein staining on membranes.

Cat.No.	Size
33427.01	500 ml

Potassium acetate molecular biology grade

$C_2H_3O_2K$ ♦ M_r 98.14 ♦ CAS [127-08-2]

EINECS 204-822-2 ♦ WGK 1L ♦ HS 29152900

DNase/RNase not detected.

Assay (titr.)	min 99.0 %
Heavy metals (as Pb)	max. 0.001 %
pH 5 % in water	7.5 - 9.0

Cat.No.	Size
39567.02	500 g

Potassium chloride research grade, Ph. Eur.

KCl ♦ M_r 74.55 ♦ CAS [7447-40-7]

EINECS 231-211-8 ♦ WGK 1L ♦ HS 28273985

Suitable for the preparation of phosphate buffered saline, and for the extraction and solubilization of proteins. Potassium chloride is useful in studies of ion transport and potassium channels.

Assay (titr.)	99.0 - 100.5 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
26868.02	1 kg

Potassium chloride molecular biology grade

KCl ♦ M_r 74.6 ♦ CAS [7447-40-7]

EINECS 231-211-8 ♦ WGK 1L ♦ HS 28273985

Suitable for the preparation of phosphate buffered saline, and for the extraction and solubilization of proteins. Potassium chloride is useful in studies of ion transport and potassium channels. DNase/RNase not detected.

Assay (titr.)	min. 99.0 %
Heavy metals (as Pb)	max. 10 ppm
Fe	max. 20 ppm

Cat.No.	Size
39768.01	500 g

Potassium dihydrogen phosphate anhydrous

analytical grade, Ph. Eur.

(Potassium biphosphate; Potassium phosphate monobasic (prim. potassium phosphate))
KH_2PO_4 ♦ M_r 136.1 ♦ CAS [7778-77-0]

EINECS 231-913-4 ♦ WGK 1 ♦ HS 28352400

Biochemical and enzyme standard. Buffering substance according to Sörensen. 9.072 g in 1 liter water = 1/15 M. Tested for use in tissue culture.

Assay (titr.)	98.0 % - 100.5 %
pH 5 % in water	4.2
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
26870.01	500 g

di-Potassium hydrogen phosphate anhydrous

analytical grade

(Dipotassium hydrogen phosphate; Potassium phosphate dibasic (sec. potassium phosphate))
K_2HPO_4 ♦ M_r 174.18 ♦ CAS [7758-11-4]

EINECS 231-834-5 ♦ WGK 1 ♦ HS 28352400

Buffering substance for biochemistry and enzymology.

Assay	min. 99.0 %
pH 5 % in water	8.7 - 9.3
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
26887.01	500 g
26887.02	1 kg

Precast Gels for IEF

see 42965 SERVALYT™ PRECOTES™ Wide Range pH 3-10, page 119

PRECOTES™

see 42965 SERVALYT™ PRECOTES™ Wide Range pH 3-10, page 119

PreNets™

see 42738 SERVALYT™ PreNets™ pH 3-10, page 121

L-Proline research grade, Ph. Eur.

(Pro; 2-Pyrrolidinecarboxylic acid)
$C_5H_9NO_2$ ♦ M_r 115.13 ♦ CAS [147-85-3]

EINECS 205-702-2 ♦ WGK 1L ♦ HS 29224985

Cyclic, hydrophobic, non-essential amino acid used as culture media component of cells and microorganism. It is a proteinogenic amino acid which is crucial for primary metabolism.

Assay (titr.)	98.5 - 101.0 %

Cat.No.	Size
33582.02	50 g

Pronase E from *Streptomyces griseus* min. 5.0 DMC-U/mg lyophil.

(Streptomyces griseus neutral proteinase; Actinase E)
CAS [9036-06-0]

DANGER
H315-H319-H334-H335 ♦ EG-Index 647-014-00-9 ♦ EINECS 232-909-5 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

Mixture of at least 10 proteases: five serine type proteases, two zinc endopeptidases, two zinc leucine aminopeptidases and one zinc carboxypeptidase. Digestion with the product has been useful when extensive or complete degradation of protein is required. Pronase E is used in tissue dissociation of various tissues, e.g. to isolate living chondrocytes. Additional applications are the structural analysis of proteins (1, 2), preparation of bacteriophage lambda DNA (3), pretreatment of tissue sections to enhance the intensity of immunostaining and removal of protein in DNA/RNA isolations.

Activity: min. 5.0 DMC U/mg
Unit definition: 1 DMC-U (1U) is that amount of enzymatic activity which catalyzes the cleavage of 1 µ-equivalent peptide bond from dimethyl casein per minute at 25 °C, pH 7.5, expressed in terms of the appearance of new terminal amino groups (4).
Activity in other units: ca. 1 000 000 PU-units/g (casein substrate; 40 °C, pH 7.4 (5), ca. 20 000 PUK-units/g (casein substrate, 40 °C, pH 7.5).

Pronase = registered trademark of Calbiochem-Novabiochem Corp.

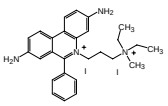
References:
1. Jehanli, A. & Hough, D. (1985) Mol. Immunol. ***22***, 557-66
2. Tsugita, A. & Akabori, S. (1959) J. Biochem. (Tokyo) ***46,*** 695-704
3. Maniatis, T. et al. (1982) Molecular Cloning - a Laboratory Manual. Cold Spring, Harbor Laboratory, p. 85
4. Lin, Y. et al. (1969) J. Biol. Chem. ***244,*** 789-93
5. Nomoto, M. & Narashi, Y. (1959) J. Biochem. (Tokyo) ***46,*** 653-67

Cat.No.	Size
33635.01	250 mg
33635.02	1 g
33635.03	5 g

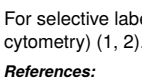
2-Propanone

see 45632 Aceton, page 2

Propidium iodide research grade



(3,8-Diamino-5-(3-[diethylmethylammonio]propyl)-6-phenylphenan-thridinium· diiodide)
$C_{27}H_{34}N_4^{2+}\cdot 2I^-$ ♦ M_r 668.4 ♦ CAS [25535-16-4]



WARNING
H315-H319-H335-H341 ♦ EINECS 247-081-0 ♦ WGK 2 ♦ HS 29239000
Storage temperature +2 °C to +8 °C

For selective labelling of DNA in dead cells; used in tumor diagnosis (flow cytometry) (1, 2). For the study of micronuclear morphology of protozoa (3).

References:
1. Valet, G. et al. (1987) Blut ***49,*** 37-43
2. ibid. (1984) J. Clin. Chem. Clin. Biochem. ***22,*** 935-42
3. Fox, D.P. et al. (1987) Stain Technol. ***62,*** 217-20

Cat.No.	Size
33671.01	25 mg

β-Propiolactone research grade

(2-Oxetanone; 3-Hydroxypropionic acid lactone)
$C_3H_4O_2$ ♦ M_r 72.06 ♦ CAS [57-57-8]

DANGER
H315-H319-H330-H350 ♦ Carc. 1B ♦ EG-Index 606-031-00-1 ♦ GGVSE/ADR 6.1 II UN2810 ♦ IATA 6.1 II UN2810 ♦ EINECS 200-340-1 ♦ WGK 3 ♦ HS 29322090
Storage temperature -15 °C to -25 °C ❄❄

Miscibility with water 37 %. Polymerizes on warming and in the presence of ions (1). For enzyme sterilization (2). Carcinogen (3).

Assay (H-NMR) min. 98.5 %

References:
1. Gresham, T.L. et al. (1948) J. Am. Chem. Soc. ***70,*** 998-9
2. Stokes, K.J. (1971) J. Clin. Pathol. ***24,*** 658-60
3. Poirier, L.A. et al. (1979) J. Natl. Cancer Inst. ***62,*** 833-40

Cat.No.	Size
33672.01	10 ml

Propylene oxide research grade

(1,2-Epoxypropane)
C_3H_6O ♦ M_r 58.08 ♦ CAS [75-56-9]

DANGER
H224-H302-H312-H315-H319-H332-H335-H340-H350 ♦ Muta. 1B, Carc. 1B ♦ MAK/TRK 6 mg/m³, 2.5 ml/m³ ♦ EG-Index 603-055-00-4 ♦ GGVSE/ADR 3 I UN1280 ♦ IATA 3 I UN1280 ♦ EINECS 200-879-2 ♦ WGK 3L ♦ HS 29102000

Solvent used in the last stage of dehydration of tissue for epoxy embedding in electron microscopy.

Content min. 99 %

Cat.No.	Size
33715.01	1 L

Protease-Inhibitor Mix G

WGK 2 ♦ HS 38220000
Storage temperature -15 °C to -25 °C

Special mixture of 5 water-soluble protease inhibitors with broad specificity for the inhibition of cysteine-, serine- and metalloproteases. Recommended for general applications and where the use of organic solvents should be avoided. Contains AEBSF, Aprotinin, E-64, Leupeptin and EDTA.
The content of 1 vial dissolved in 1 ml water results in a 100-fold concentrate suitable for the treatment of 100 ml tissue extract.

Cat.No.	Size
39101.01	1 vial
39101.02	5 vials
39101.03	10 vials

Protease-Inhibitor Mix B

WGK 1 ♦ HS 38220000
Storage temperature -15 °C to -25 °C

Mixture of 5 protease inhibitors with broad range of activity against aspartate-, cysteine-, serine-, and metallo proteases as well as aminopeptidases. It is especially formulated for use with bacterial extracts. Contains AEBSF, Bestatin, E-64, Pepstatin A and EDTA.
Supplied as a kit: each vial is provided with an extra vial of 1 ml DMSO.
The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.

Cat.No.	Size
39105.01	1 vial
39105.02	5 vials
39105.03	10 vials

Protease-Inhibitor Mix FY

DANGER
H301-H410 ♦ GGVSE/ADR 6.1 III UN2811 ♦ IATA 6.1 III UN2811 ♦ EINECS 200-664-3 ♦ WGK 1 ♦ HS 38220000
Storage temperature -15 °C to -25 °C

Special mixture of 4 protease inhibitors with broad specificity for the inhibition of aspartate-, cysteine-, serine-, and metallo proteases. It is especially formulated for use with fungal and yeast extracts. Contains AEBSF, E-64, Pepstatin A, and 1,10-Phenanthroline.
Supplied as a kit: each vial is provided with an extra vial of 1 ml DMSO.
The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.

Cat.No.	Size
39104.01	1 vial
39104.02	5 vials
39104.03	10 vials

Protease-Inhibitor Mix P

DANGER
H301-H410 ♦ GGVSE/ADR 6.1 III UN2811 ♦ IATA 6.1 III UN2811 ♦ EINECS 200-664-3 ♦ WGK 2 ♦ HS 38220000
Storage temperature -15 °C to -25 °C

Special mixture of 6 protease inhibitors with broad range of activity for the inhibition of aspartate-, cysteine-, serine-, and metallo proteases as well as aminopeptidases. It is especially formulated for use with plant extracts. Contains AEBSF, Bestatin, E-64, Leupeptin, Pepstatin A, and 1,10-Phenanthroline.
Supplied as a kit: each vial is provided with an extra vial of 1 ml DMSO.
The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.

Cat.No.	Size
39103.01	1 vial
39103.02	5 vials
39103.03	10 vials

Protease-Inhibitor Mix M

EINECS 200-664-3 ♦ WGK 1 ♦ HS 38220000
Storage temperature -15 °C to -25 °C

Mixture of 6 protease inhibitors with broad spectrum of activity for the inhibition of aspartate-, cysteine-, and serine-proteases as well as aminopeptidases (metallo-proteases). It is especially formulated for use with extracts from mammalian tissue, but can also be used with other extracts. It is free of EDTA and contains AEBSF, Aprotinin, Bestatin, E-64, Leupeptin and Pepstatin A.
Supplied as a kit: each vial is provided with an extra vial of 1 ml DMSO.
The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.

Cat.No.	Size
39102.01	1 vial
39102.02	5 vials
39102.03	10 vials

Protease-Inhibitor Mix HP

HS 38220000
Storage temperature -15 °C to -25 °C

Special mixture of 4 water-soluble protease inhibitors with broad specificity for the inhibition of cysteine- and serine-proteases. Free of metal-chelators. Recommended for purification of polyHis-tagged proteins and for other applications where metal-chelators should be avoided. Contains AEBSF, Aprotinin, E-64, and Leupeptin.
The content of 1 vial dissolved in 1 ml water will give a 100-fold concentrate suitable for the treatment of 100 ml tissue extract.

Cat.No.	Size
39106.01	1 vial
39106.02	5 vials
39106.03	10 vials

Protease-Inhibitor Mix HP PLUS

HS 38220000
Storage temperature -15 °C to -25 °C

Mixture of 6 protease inhibitors with broad spectrum of activity for the inhibition of aspartate-, cysteine-, and serine proteases as well as aminopeptidases, Thermolysin and other microbial metalloendoproteases. It is especially recommended for purification of polyHis-tagged proteins and for other applications, where metal-chelators should be avoided.
Contains AEBSF, Bestatin, E-64, Leupeptin, Pepstatin A, and Phosphoramidon.
Supplied as a kit; each vial is provided with an extra vial of 1 ml DMSO. The content of 1 vial dissolved in 1 ml DMSO will give a 100-fold concentrate, suitable for the treatment of 100 ml extract.

Cat.No.	Size
39107.01	1 vial
39107.02	5 vials
39107.03	10 vials

Proteasome Inhibitor MG-132

(Carbobenzoxy-L-leucyl-L-leucyl-leucinal; Z-Leu-Leu-Leu-H (aldehyde))
$C_{26}H_{41}N_3O_5$ ♦ M_r 475.62 ♦ CAS [133407-82-6]

HS 29420000
Storage temperature -15 °C to -25 °C

Potent, reversible and cell-permeable proteasome inhibitor.

Assay (HPLC) min. 90.0 %

References:
1. Saito, Y. et al. (1990) Neurosci. Lett. ***120***, 1
2. Jensen, T.J. et al. (1995) Cell ***83***, 129
3. Lee, D.H. a. Goldberg, A.L. (1996) J. Biol. Chem. ***271***, 27280

Cat.No.	Size
33766.02	5 mg

Protein A Buffer Pack

HS 38220000

Contents:
1 x Binding Buffer pH 9.0 A (250 ml)
1 x Elution Buffer pH 5.5 B1 (125 ml)
1 x Elution Buffer pH 2.5 B2 (125 ml)
1 x Neutralization Buffer pH 9.0 C (30 ml)

Cat.No.	Size
42275.01	1 kit

Protein A Midi Bulk Pack Midi A Plugs

HS 38220000

The Midi Protein A & G spin column permits semi-preparative purification of concentrated monoclonal and polyclonal antibodies for all downstream applications. Both the Mini and Midi kits contain all the resin spin columns, buffers and ultrafiltration spinners necessary for rapid and convenient purifications of your target antibodies.

Contents:
Quantity: 12 x 1.6 ml Protein A Midi spin columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 24 x 20 ml centrifuge tubes
Min. number of purifications: 60 purifications (5 uses per column)
Typical capacity/preparation: 20 mg human IgG

Cat.No.	Size
42259.01	12 pieces

Protein A Midi Kit - 4 Midi A Plugs

HS 38220000

The Midi Protein A & G spin column permits semi-preparative purification of concentrated monoclonal and polyclonal antibodies for all downstream applications. Both the Mini and Midi kits contain all the resin spin columns, buffers and ultrafiltration spinners necessary for rapid and convenient purifications of your target antibodies.

Contents:
Quantity: 4 x 1.6 ml Protein A Midi spin columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 8 x 20 ml centrifuge tubes
Min. number of purifications: 20 purifications (5 uses per column)
Typical capacity/preparation: 20 mg human IgG
Vivaspin 20 ultrafiltration concentrators: 4
Buffers: 1 x Binding Buffer pH 9.0 A (250 ml), 1 x Elution Buffer pH 5.5 B1 (125 ml), 1 x Elution Buffer pH 2.5 B2 (125 ml), 1 x Neutralization Buffer pH 9.0 C (30 ml)

Cat.No.	Size
42258.01	1 kit

Protein A Mini Bulk Pack Mini A Plugs

HS 38220000

The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
Quantity: 48 x 0.23 Protein A Mini spin columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microcentrifuge tubes
Min. number of purifications: 144 purifications (3 uses per column)
Typical capacity/preparation: 1 mg human IgG

Cat.No.	Size
42257.01	48 pieces

Protein A Mini Kit - 16 Mini A Plugs

HS 38220000

The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
Quantity: 16 x 0.23 Protein A Mini spin columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microcentrifuge tubes
Min. number of purifications: 48 purifications (3 uses per column)
Typical capacity/preparation: 1 mg human IgG
Vivaspin 500 ultrafiltration concentrators: 16
Buffers: 1 x Binding Buffer pH 9.0 A, 1 x Elution Buffer pH 5.5 B1, 1 x Elution Buffer pH 2.5 B2, 1 x Neutralization Buffer pH 9.0 C

Cat.No.	Size
42256.01	1 kit

Protein A Mini Sample Kit: 2 Mini A Plugs

HS 38220000

The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
Quantity: 2 x 0.23 Protein A Mini spin columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microcentrifuge tubes
Min. number of purifications: 6 purifications (3 uses per column)
Typical capacity/preparation: 1 mg human IgG
Vivaspin 500 ultrafiltration concentrators: 2
Buffers: 1 x Binding Buffer pH 9.0 A, 1 x Elution Buffer pH 5.5 B1, 1 x Elution Buffer pH 2.5 B2, 1 x Neutralization Buffer pH 9.0 C

Cat.No.	Size
42255.01	1 kit

Protein G Buffer Pack

HS 38220000

Contents:
1 x Binding Buffer pH 9.0 A (250 ml)
1 x Elution Buffer pH 2.5 B2 (125 ml)
1 x Neutralization Buffer pH 9.0 C (30 ml)

Cat.No.	Size
42276.01	1 kit

Protein G Midi Bulk Pack Midi G Plugs

HS 38220000

The Midi Protein A & G spin column permits semi-preparative purification of concentrated monoclonal and polyclonal antibodies for all downstream applications. Both the Mini and Midi kits contain all the resin spin columns, buffers and ultrafiltration spinners necessary for rapid and convenient purifications of your target antibodies.

Contents:
Quantity: 12 x 1.6 ml Protein G Midi spin columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 24 x 20 ml centrifuge tubes
Min. number of purifications: 60 purifications (5 uses per column)
Typical capacity/preparation: 20 mg human IgG

Cat.No.	Size
42265.01	12 pieces

Protein G Midi Kit - 4 Midi G plugs

HS 38220000

The Midi Protein A & G spin column permits semi-preparative purification of concentrated monoclonal and polyclonal antibodies for all downstream applications. Both the Mini and Midi kits contain all the resin spin columns, buffers and ultrafiltration spinners necessary for rapid and convenient purifications of your target antibodies.

Contents:
Quantity: 4 x 1.6 ml Protein G Midi spin columns
Max. sample volume per load: 20 ml, swing bucket rotor
Collection tube: 8 x 20 ml centrifuge tubes
Min. number of purifications: 20 purifications (5 uses per column)
Typical capacity/preparation: 20 mg human IgG
Vivaspin 20 ultrafiltration concentrators: 4
Buffers: 1 x Binding Buffer pH 9.0 A (250 ml), 1 x Elution Buffer pH 2.5 B2 (125 ml), 1 x Neutralization Buffer pH 9.0 C (30 ml)

Cat.No.	Size
42264.01	1 kit

Protein G Mini Bulk Pack Mini G Plugs

HS 38220000

The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
Quantity: 48 x 0.23 Protein G Mini spin columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microcentrifuge tubes
Min. number of purifications: 144 purifications (3 uses per column)
Typical capacity/preparation: 1 mg human IgG

Cat.No.	Size
42263.01	48 pieces

Protein G Mini Kit: 16 Mini G Plugs

HS 38220000

The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
Quantity: 16 x 0.23 Protein G Mini spin columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microcentrifuge tubes
Min. number of purifications: 48 purifications (3 uses per column)
Typical capacity/preparation: 1 mg human IgG
Vivaspin 500 ultrafiltration concentrators: 16
Buffers: 1 x Binding Buffer pH 9.0 A, 1 x Elution Buffer pH 2.5 B2, 1 x Neutralization Buffer pH 9.0 C

Cat.No.	Size
42262.01	1 kit

Protein G Mini Sample Kit: 2 Mini G Plugs

HS 38220000

The Mini Protein A & G spin column is the ideal tool for screening antibody expression and for small-scale purification of antibodies for solution-state immunoassays, immuno-histochemical and immuno-fluorescence studies, Western Blotting and immuno-precipitation studies. Antibodies are purified using a powerful, patented affinity spin column using a microfuge common to all biochemistry and immunology laboratories.

Contents:
Quantity: 2 x 0.23 Protein G Mini spin columns
Max. sample volume per load: 0.65 ml, fixed angle rotor
Collection tube: 2.2 ml microcentrifuge tubes
Min. number of purifications: 6 purifications (3 uses per column)
Typical capacity/preparation: 1 mg human IgG
Vivaspin 500 ultrafiltration concentrators: 2
Buffers: 1 x Binding Buffer pH 9.0 A, 1 x Elution Buffer pH 2.5 B2, 1 x Neutralization Buffer pH 9.0 C

Cat.No.	Size
42261.01	1 kit

Protein Molecular Weight Standards

HS 38220000
Storage temperature -15 °C to -25 °C

To determine the molecular weight of proteins separated in polyacrylamide gels in their native state SERVA offers a set of 8 proteins.
Proteins are either in solution or lyophilized, the lyophilized proteins can easily be dissolved in water or sample buffer. The molecular weights of the proteins range from 12.300 Da (Cytochrome C) up to 450.000 Da (Ferritin horse).
Please note: In the presence of SDS most of the proteins will fall into their subunits, therefore this marker should not be used for SDS PAGE.

25 mg of each. For native electrophoresis.

Ferritin horse	M_r 450 000
Catalase bovine	M_r 240 000
Aldolase rabbit	M_r 160 000
Albumin bovine (BSA)	M_r 67 000
Albumin egg	M_r 45 000
Chymotrypsinogen A	M_r 25 000
Myoglobin equine	M_r 17 800
Cytochrome C	M_r 12 300

Cat.No.	Size
39064.01	1 kit

Protein Standards (Markers) for IEF

see 39212 IEF Marker 3-10, Liquid Mix, page 59

Protein Test Mixture 4 for SDS PAGE

DANGER
H334 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Molecular weight markers for SDS gel electrophoresis. The bovine albumin (BSA) contains monomers and oligomers.
Reconstitute with SDS sample buffer (125 mM Tris-HCl pH 6.8, 2 % SDS, 15 % glycerol, 10 mM DTT, 0.025 % bromophenol blue, 0.025 % Orange G) to final concentration of 1 mg/ml and apply 5 µl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®.
For silver staining, e.g. using SERVA's Silver Staining Kit (cat.no. 39076), dilute 1:5 in 1x Laemmli buffer and apply 5 µl.

Phosphorylase B	M_r 97 400
Albumin bovine (BSA)	M_r 67 000
Albumin egg	M_r 45 000
Carbonic anhydrase	M_r 29 000

Coomassie = registered trademark of ICI Ltd.

Cat.No.	Size
39208.01	10 mg

Protein Test Mixture 5 for SDS PAGE

DANGER
H302-H334-H341-H361D ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Molecular weight markers for SDS gel electrophoresis.
Reconstitute with SDS sample buffer (125 mM Tris-HCl pH 6.8, 2 % SDS, 15 % glycerol, 10 mM DTT, 0.025 % bromophenol blue, 0.025 % Orange G) to final concentration of 1 mg/ml and apply 5 µl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®.
For silver staining, e.g. using SERVA's Silver Staining Kit (cat.no. 39076), dilute 1:5 in 1x Laemmli buffer and apply 5 µl.

Carbonic anhydrase	M_r 29 000
Trypsin inhibitor (soybean)	M_r 21 000
Cytochrome C	M_r 12 300
Trypsin inhibitor (bovine lung)	M_r 6 500

Coomassie = registered trademark of ICI Ltd.

Cat.No.	Size
39209.01	10 mg

Protein Test Mixture 6 for SDS PAGE

DANGER
H334 ♦ WGK 1 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Molecular weight markers for SDS gel electrophoresis.
Reconstitute with SDS sample buffer (125 mM Tris-HCl pH 6.8, 2 % SDS ,15 % glycerol, 10 mM DTT, 0.025 % bromophenol blue, 0.025 % Orange G) to final concentration of 1 mg/ml and apply 5 µl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®.
For silver staining, e.g. using SERVA's Silver Staining Kit (cat.no. 39076), dilute 1:5 in 1x Laemmli buffer and apply 5 µl.

Phosphorylase B	M_r 97 400
Albumin bovine (BSA)	M_r 67 000
Albumin egg	M_r 45 000
Carbonic anhydrase	M_r 29 000
Trypsin inhibitor (soybean)	M_r 21 000
Cytochrome C	M_r 12 300
Trypsin inhibitor (bovine lung)	M_r 6 500

Coomassie = registered trademark of ICI Ltd.

Cat.No.	Size
39207.01	10 mg

Protein Test Mixture for pI-Determination, pH 3-10

DANGER
H334-H341 ♦ WGK 1 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Lyophilized pI marker proteins for pI determination by isoelectric focusing (IEF). Reconstitute dry powder with 1 ml water (concentration: 10 mg/ml).

Amyloglucosidase	pI 3.5
Glucose oxidase	pI 4.2
Trypsin inhibitor	pI 4.5
β-Lactoglobulin	pI 5.15/5.3
Myoglobin horse	pI 6.9/7.35
Lentil lectin	pI 7.75/8.0/8.3
Ribonuclease A	pI 9.45
Cytochrome C	pI 10.65
Carboanhydrase	pI 6.0

Cat.No.	Size
39211.01	10 mg

Proteinase K from *Tritirachium album*

solution 20 mg solid/ml, ≥ 600 mAnson-U/ml

EC 3.4.21.14 ♦ M_r M_r 28.000

DANGER
H334 ♦ WGK 1 ♦ HS 38220000
Storage temperature -15 °C to -25 °C

Serine protease with very broad range of action: cleaves peptide bonds at the carboxylic side of aliphatic, aromatic, and hydrophobic amino acids.
Suitable for the isolation of DNA and RNA (1, 3).

Unit definition: 1 mAnson unit is defined as the amount of enzyme that liberates folin-positive amino acids and peptides, corresponding to 1 µmol tyrosine per minute at 37 °C and pH 7.4 using urea-denatured hemoglobin as substrate (4).

Activity (U/ml): ≥ 600

Inhibitors for proteinase: AEBSF (cat. no. 12745), (PEFABLOC® SC (cat. no. 31682), PMSF (cat. no. 32395) and diisopropylfluorophosphate.
Extraneous activities: DNases and RNases not detectable.

References:
1. Ebeling, W. et al.(1974) Eur. J. Biochem. ***47***, 91-7
2. Lin, Y. et al.(1969) J. Biol. Chem. ***244***, 789-93
3. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (B.16, 1.61)
4. Anson, M.L. (1938) J. Gen. Physiol. ***22***, 79-98

Cat.No.	Size
33755.01	1 ml
33755.02	5 ml
33755.03	10 ml

Proteinase K from *Tritirachium album* min. 30 mAnson-U/mg lyophil.

EC 3.4.21.14 ♦ M_r ca. 28 000 ♦ CAS [39450-01-6]

DANGER
H315-H319-H334-H335 ♦ EG-Index 647-014-00-9 ♦ EINECS 254-457-8 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

Serin protease with very broad range of action: cleaves peptide bonds at the carboxylic side of aliphatic, aromatic, and hydrophobic amino acids. Suitable for the isolation of DNA and RNA (1, 3).

Unit definition: 1 mAnson unit is defined as the amount of enzyme that liberates folin-positive amino acids and peptides, corresponding to 1 µmol tyrosine per minute at 37 °C and pH 7.4 using urea-denatured hemoglobin as substrate (4).

Activity (U/ml): ≥ 600

Inhibitors for proteinase: AEBSF (cat. no. 12745), (PEFABLOC® SC (cat.no. 31682), PMSF (cat. no. 32395)
Extraneous activities: DNases and RNases not detectable.

References:

1. Ebeling, W. et al.(1974) Eur. J. Biochem. ***47,*** 91-7
2. Lin, Y. et al.(1969) J. Biol. Chem. ***244,*** 789-93
3. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (B.16, 1.61)
4. Anson, M.L. (1938) J. Gen. Physiol. ***33,*** 79-89

Cat.No.	Size
33752.01	25 mg
33752.02	100 mg
33752.03	500 mg

Proteinase K, recombinant, min. 30 mAnson-U/mg

lyophil., molecular biology grade

EC 3.4.21.14 ♦ M_r ca. 28 000 ♦ CAS [39450-01-6]

DANGER
H315-H319-H334-H335 ♦ EINECS 254-457-8 ♦ WGK 1 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

A recombinant proteinase K from *Tritirachium album* expressed in *Pichia pastoris*. Subtilisin-related serine protease with a very high specific activity and a broad spectrum of action. It is widely used for digestion of proteins, including DNases and RNases during nucleic acid preparations without compromising the integrity of the isolated DNA or RNA.
Free of DNAse and RNase activity.

Unit definition: One unit will hydrolyze urea-denatured 2 % hemoglobin to produce color equivalent 1 µmol of tyrosine per minute at pH 7.5 at 37 °C (color by Fiolin & Ciocalteu's Phenol Reagent).

Cat.No.	Size
33756.02	100 mg
33756.03	500 mg

Proteinase K, recombinant, min. 35 mAnson-U/mg

lyophil., NGS grade

EC 3.4.21.14 ♦ M_r 28.900,00 ♦ CAS [39450-01-6]

DANGER
H315-H319-H334-H335 ♦ EINECS 254-457-8 ♦ WGK 1 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

A recombinant proteinase K from *Tritirachium album* expressed in *Pichia pastoris*.
Subtilisin-related serine protease with a very high specific activity and a broad spectrum of action. It is widely used for digestion of proteins, including DNases and RNases during nucleic acid preparations without compromising the integrity of the isolated DNA or RNA.
An extra purification step results in 2.5-fold increased solubility, increased specific activity and very low DNA content compared to other comercially available recombinant proteinase K preparations. Therefore it is especially suitable for methods demanding highest quality like Next Generation Sequencing (NGS).

- Free of endonucleases, exonucleases and ribonucleases
- Solubility in water: ≥ 50 mg/ml
- DNA: ≤0.1 pg/mg enzyme

Cat.No.	Size
33757.01	25 mg
33757.02	100 mg

Proteus 1-Step Batch Midi Plus Spin Columns

HS 38220000

Proteus 1-Step Batch Midi Plus Spin Columns are designed for small scale protein purifications such as those required for expression trials, solubility determination tests, screening, tittering and scouting studies.
These innovative columns incorporate a SelfSeal™ membrane technology which retains the resin and sample in the batch incubation chamber. When the column is spun in a benchtop centrifuge at 750 g, the pores of the membrane dilate and the filtered eluate is collected in the bottom of the centrifuge tube.

Specifications
Sinter type: ultra high density polyethylene
Construction: Polypropylene
Pore size: 0.1 - 0.2 µm low protein binding PVDF
SelfSeal: Proprietary coating
Maximum vol: 20 ml
Typical g force: 750 g
Typical spin times: 5 min for up to 20 ml sample at 750 g
Storage: Store at RT (non-sterile)
Shelf-life: 24 months

Cat.No.	Size
42239.01	8 pieces

Proteus 1-Step Batch Mini Spin Columns

HS 38220000

Proteus 1-Step Batch Mini Spin Columns are designed for small scale protein purifications such as those required for expression trials, solubility determination tests, screening, tittering and scouting studies.
These innovative columns incorporate a SelfSeal™ membrane technology which retains the resin and sample in the batch incubation chamber. When the column is spun in a microfuge at 12 - 14,000 g for up to 1 min, the pores of the membrane dilate and the filtered eluate is collected in the bottom of the centrifuge tube.

Specifications
Sinter type: ultra high density polyethylene
Construction: Polypropylene
Pore size: 0.1 - 0.2 µm low protein binding PVDF
SelfSeal: Proprietary coating
Maximum vol: 600 µl
Maximum g force: 12 – 14,000 g (45° fixed angle rotor)
Minimum g force: 2,500 g for 1 min
Typical spin times: 30 sec - 1 min for up to 0.6 ml sample at 12 - 14,000 g
Storage: Store at RT (non-sterile)
Shelf-life: 24 months

Cat.No.	Size
42237.01	40 pieces

Proteus 1-Step Batch Mini Spin Columns

HS 38220000

Proteus 1-Step Batch Mini Spin Columns are designed for small scale protein purifications such as those required for expression trials, solubility determination tests, screening, tittering and scouting studies.
These innovative columns incorporate a SelfSeal™ membrane technology which retains the resin and sample in the batch incubation chamber. When the column is spun in a microfuge at 12 - 14,000 g for up to 1 min, the pores of the membrane dilate and the filtered eluate is collected in the bottom of the centrifuge tube.

Specifications
Sinter type: ultra high density polyethylene
Construction: Polypropylene
Pore size: 0.1 - 0.2 µm low protein binding PVDF
SelfSeal: Proprietary coating
Maximum vol: 600 µl
Maximum g force: 12 – 14,000 g (45° fixed angle rotor)
Minimum g force: 2,500 g for 1 min
Typical spin times: 30 sec - 1 min for up to 0.6 ml sample at 12 - 14,000 g
Storage: Store at RT (non-sterile)
Shelf-life: 24 months

Cat.No.	Size
42238.01	100 pieces

Proteus Detergent Anion Exchange Mini Spin Column Kit (20 pc)

HS 38220000

Proteus Detergent Anion Exchange (DetEx) Mini Spin Columns designed for rapid and effective removal of free detergents micelles and complete detergent exchange. They are optimized for membrane proteins with pI <8 in complex with non-ionic or zwitterionic detergents. Simple and adaptable to your protein requiring only a microfuge for operation.
Ideal for applications such as ELISA, IEF, MS and NMR which suffer from interference with excess detergents.

Features:
Weak Anion Exchanger for binding membrane proteins with pI <8
Complete detergent exchange/removal
Column bed volume: 0.2 ml
Max. sample loading volume: 0.4 ml
Typical protein binding capacity: 2 mg
Elution in a small volume (minimum volume 50 µl)

Benefits:
Universal appeal as most proteins have a pI between 4 - 8
Rapid removal and exchange of free detergent micelles in 10 min
Generate concentrated protein free of detergent micelles
Only requires a microfuge for use

Cat.No.	Size
42241.01	1 kit

Proteus Detergent Anion Exchange Mini Spin Columns Trial Kit (4 pc)

HS 38220000

Proteus Detergent Anion Exchange (DetEx) Mini Spin Columns designed for rapid and effective removal of free detergents micelles and complete detergent exchange. They are optimized for membrane proteins with pI <8 in complex with non-ionic or zwitterionic detergents. Simple and adaptable to your protein requiring only a microfuge for operation.
Ideal for applications such as ELISA, IEF, MS and NMR which suffer from interference with excess detergents.

Features:
Weak Anion Exchanger for binding membrane proteins with pI <8
Complete detergent exchange/removal
Column bed volume: 0.2 ml
Max. sample loading volume: 0.4 ml
Typical protein binding capacity: 2 mg
Elution in a small volume (minimum volume 50 µl)

Benefits:
Universal appeal as most proteins have a pI between 4 - 8
Rapid removal and exchange of free detergent micelles in 10 min
Generate concentrated protein free of detergent micelles
Only requires a microfuge for use

Cat.No.	Size
42240.01	1 kit

Proteus Mini Clarification Spin Column, 0.2 µm PVDF membrane

HS 38220000

Proteus Mini Clarification Spin Columns are designed to remove microorganisms, particles and precipitates larger than 0.2 µm pore size from aqueous solutions. These are ideal for HPLC/FPLC sample preparation. The PVDF membrane provides high flow rates and throughput, low extractables and broad chemical compatibility. The membrane binds far less protein than nylon, cellulose or PES membranes. The columns fit all standard microfuges and allow you to process multiple samples in parallel.

Specifications
Membrane type: Hydrophilic PVDF
Plastic construction: Polypropylene
Pore size: 0.2 µm
Maximum sample volume: 0.65 ml
Hold-up volume: < 5 µl
Maximum g force: 16,000 g
Typical spin times: 1 - 2 mins for 0.65 ml sample at 14,000 g
Storage: Store at RT (non-sterile)
Shelf-life: 24 months

Cat.No.	Size
42225.01	100 pieces

Proteus NoEndoµ (Micro) 100 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

NoEndo™ µ spin columns incorporate our proprietary and NASA-inspired SelfSeal ™ membrane technology. The membrane is specially formulated to prevent any sample from leaking into the collection tube on an orbital mixer. In a centrifuge, the membrane pores dilate and the eluate, free of endotoxin, passes into the collection tube. The contact time is maximized to ensure maximum endotoxin depletion without losses of the target protein, antibody or domain antibody. Uniquely, there is also no dilution of the sample.

Cat.No.	Size
42250.01	1 kit

Proteus NoEndoµ (Micro) 2 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

NoEndo™ µ spin columns incorporate our proprietary and NASA-inspired SelfSeal ™ membrane technology. The membrane is specially formulated to prevent any sample from leaking into the collection tube on an orbital mixer. In a centrifuge, the membrane pores dilate and the eluate, free of endotoxin, passes into the collection tube. The contact time is maximized to ensure maximum endotoxin depletion without losses of the target protein, antibody or domain antibody. Uniquely, there is also no dilution of the sample.

Cat.No.	Size
42242.01	1 kit

Proteus NoEndoµ (Micro) 24 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

NoEndo™ µ spin columns incorporate our proprietary and NASA-inspired SelfSeal ™ membrane technology. The membrane is specially formulated to prevent any sample from leaking into the collection tube on an orbital mixer. In a centrifuge, the membrane pores dilate and the eluate, free of endotoxin, passes into the collection tube. The contact time is maximized to ensure maximum endotoxin depletion without losses of the target protein, antibody or domain antibody. Uniquely, there is also no dilution of the sample.

Cat.No.	Size
42246.01	1 kit

Proteus NoEndoHC (High Capacity) 12 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

The proprietary FlowGo™ technology regulates sample movement through the technologically-advanced affinity resin cartridge, increasing both endotoxin removal and protein recovery. Uniquely, we offer flow rate control for endotoxin removal in a centrifuge.

Cat.No.	Size
42249.01	1 kit

Proteus NoEndoHC (High Capacity) 2 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

The proprietary FlowGo™ technology regulates sample movement through the technologically-advanced affinity resin cartridge, increasing both endotoxin removal and protein recovery. Uniquely, we offer flow rate control for endotoxin removal in a centrifuge.

Cat.No.	Size
42245.01	1 kit

Proteus NoEndoHC (High Capacity) 48 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

The proprietary FlowGo™ technology regulates sample movement through the technologically-advanced affinity resin cartridge, increasing both endotoxin removal and protein recovery. Uniquely, we offer flow rate control for endotoxin removal in a centrifuge.

Cat.No.	Size
42253.01	1 kit

Proteus NoEndoM (Mini) 12 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

NoEndo™ µ spin columns incorporate our proprietary and NASA-inspired SelfSeal ™ membrane technology. The membrane is specially formulated to prevent any sample from leaking into the collection tube on an orbital mixer. In a centrifuge, the membrane pores dilate and the eluate, free of endotoxin, passes into the collection tube. The contact time is maximized to ensure maximum endotoxin depletion without losses of the target protein, antibody or domain antibody. Uniquely, there is also no dilution of the sample.

Cat.No.	Size
42247.01	1 kit

Proteus NoEndoM (Mini) 2 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

NoEndo™ µ spin columns incorporate our proprietary and NASA-inspired SelfSeal ™ membrane technology. The membrane is specially formulated to prevent any sample from leaking into the collection tube on an orbital mixer. In a centrifuge, the membrane pores dilate and the eluate, free of endotoxin, passes into the collection tube. The contact time is maximized to ensure maximum endotoxin depletion without losses of the target protein, antibody or domain antibody. Uniquely, there is also no dilution of the sample.

Cat.No.	Size
42243.01	1 kit

Proteus NoEndoM (Mini) 48 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

NoEndo™ µ spin columns incorporate our proprietary and NASA-inspired SelfSeal ™ membrane technology. The membrane is specially formulated to prevent any sample from leaking into the collection tube on an orbital mixer. In a centrifuge, the membrane pores dilate and the eluate, free of endotoxin, passes into the collection tube. The contact time is maximized to ensure maximum endotoxin depletion without losses of the target protein, antibody or domain antibody. Uniquely, there is also no dilution of the sample.

Cat.No.	Size
42251.01	1 kit

Proteus NoEndoS (Standard) 12 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

The proprietary FlowGo™ technology regulates sample movement through the technologically-advanced affinity resin cartridge, increasing both endotoxin removal and protein recovery. Uniquely, we offer flow rate control for endotoxin removal in a centrifuge.

Cat.No.	Size
42248.01	1 kit

Proteus NoEndoS (Standard) 2 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

The proprietary FlowGo™ technology regulates sample movement through the technologically-advanced affinity resin cartridge, increasing both endotoxin removal and protein recovery. Uniquely, we offer flow rate control for endotoxin removal in a centrifuge.

Cat.No.	Size
42244.01	1 kit

Proteus NoEndoS (Standard) 48 Column Kit

HS 38220000

Residual endotoxin contamination in advanced biotherapy products is an expensive and often difficult contaminant to control.
Many commercially available protocols are unable to remove endotoxins effectively and are based on non-affinity chromatography methods e.g. ion exchange chromatography, phase separation using Triton X-114 or require time consuming and expensive affinity steps. These costly resins are often supplied as loose resin or packed in slow gravity columns.
The Proteus NoEndo™ spin column kits offer a standardised method for high grade clearance of endotoxin from recombinant proteins, antibodies and viral vectors. These agents are increasingly being designed for therapeutic applications, hence moving them forward efficiently through *in vivo* studies requires pure preparations of the samples.

The proprietary FlowGo™ technology regulates sample movement through the technologically-advanced affinity resin cartridge, increasing both endotoxin removal and protein recovery. Uniquely, we offer flow rate control for endotoxin removal in a centrifuge.

Cat.No.	Size
42252.01	1 kit

Proteus X-Spinner 2.5 TRIAL Columns, assorted MWCOs

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl.
Trial pack contains the following X-Spinner with MWCOs of: 2x 5 kDa, 3x 10 kDa, 2x 20 kDa, 3x 100 kDa, 2x 300 kDa.

Cat.No.	Size
42226.01	12 pieces

Proteus X-Spinner 2.5, 5 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 24 X-Spinner with MWCO of 5 kDa.

Cat.No.	Size
42227.01	24 pieces

Proteus X-Spinner 2.5, 5 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 96 X-Spinner with MWCO of 5 kDa.

Cat.No.	Size
42228.01	96 pieces

Proteus X-Spinner 2.5, 10 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 24 X-Spinner with MWCO of 10 kDa.

Cat.No.	Size
42229.01	24 pieces

Proteus X-Spinner 2.5, 10 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 96 X-Spinner with MWCO of 10 kDa.

Cat.No.	Size
42230.01	96 pieces

Proteus X-Spinner 2.5, 20 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 24 X-Spinner with MWCO of 20 kDa.

Cat.No.	Size
42231.01	24 pieces

Proteus X-Spinner 2.5, 20 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 96 X-Spinner with MWCO of 20 kDa.

Cat.No.	Size
42232.01	96 pieces

Proteus X-Spinner 2.5, 100 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 24 X-Spinner with MWCO of 100 kDa.

Cat.No.	Size
42233.01	24 pieces

Proteus X-Spinner 2.5, 100 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 96 X-Spinner with MWCO of 100 kDa.

Cat.No.	Size
42234.01	96 pieces

Proteus X-Spinner 2.5, 300 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 24 X-Spinner with MWCO of 300 kDa.

Cat.No.	Size
42235.01	24 pieces

Proteus X-Spinner 2.5, 300 kDa MWCO

HS 38220000

The holy grail in ultrafiltration (UF) is to eliminate sample fouling and to enhance recovery and purity of target proteins during concentration or buffer exchange step. The 2.5 ml non-stick UF concentrator provides the highest possible protein recoveries. This is due to two factors: the low protein binding cellulose triacetate (CTA) membrane and critically, the design of the X-Spinner which ensures that ultrafiltration is in opposite direction to the centrifugal force. The contra design also ensures that the filter does not clog. This is the first centrifugal concentrator designed with membrane proteins as a key application.

Maximum sample volume is 2.5 ml, hold-up volume is 25 µl. Pack contains 96 X-Spinner with MWCO of 300 kDa.

Cat.No.	Size
42236.01	96 pieces

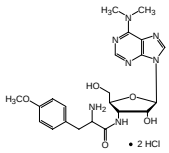
Pteroylmonoglutamic acid

see 21700 Folic acid, page 43

Puromycin·2HCl research grade

$C_{22}H_{29}N_7O_5 \cdot 2HCl$ ♦ M_r 544.4 ♦ CAS [58-58-2]

WARNING
H302-H341 ♦ EINECS 200-387-8 ♦
WGK 1 ♦ HS 29419000
Storage temperature -15 °C to -25 °C



From *Streptomyces albo-niger*. Free base (M_r 471.5) 86 %. Inhibitor of protein biosynthesis. Causes premature termination of the nascent polypeptide chain by its action as aminoacyl-tRNA analog (in procaryotes and eucaryotes).

Purity (HPLC, TLC) min. 98.0 %

References:

1. Vazquez, D. (1974) FEBS Lett. ***40,*** 63-84
2. Claeyssens, S. et al. (1993) FEBS Lett. ***315,*** 7

Cat.No.	Size
33835.01	10 mg
33835.02	50 mg
33835.03	250 mg

PVDF 0.2 Transfer Membrane

Pore size 0.2 µm, format: 30 cm x 3 m

HS 39219090

Especially for use with proteins of low molecular weight (< 20 000 Dalton). Transfer membrane based on PVDF-type chemistry with high protein binding capacity, low background and excellent mechanical stability. Applicable for all standard and special applications in the field of protein analysis.

Cat.No.	Size
42515.01	1 roll

PVDF 0.45 Transfer Membrane Pore size 0.45 µm, format: 30 cm x 3 m

HS 39219090

Transfer membrane based on PVDF-type chemistry with high protein binding capacity, low background and excellent mechanical stability. Applicable for all standard and special applications in the field of protein analysis.

Cat.No.	Size
42514.01	1 roll

3-[2-Pyridyl]-5,6-diphenyl-1,2,4-triazine-4,4´-disulfonic acid·Na-salt

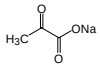
see 21326 Ferrozine®, page 41

2-Pyrrolidinecarboxylic acid

see 33582 L-Proline, page 83

Pyruvic acid·Na-salt research grade, for cell culture

(Sodium pyruvate)
$C_3H_3O_3Na$ ♦ M_r 110.04 ♦ CAS [113-24-6]



EINECS 204-024-4 ♦ WGK 1 ♦ HS 29183000

In cell culture sodium pyruvate is used by cells as an carbohydrate source and it is involved with amino acid metabolism and initiates the Krebs cycle. E.g. it has been used as a component of M-199 medium for the maturation of oocytes and in cutting solution for rat brain tissue slice preparation.

Assay (titr.)	min. 99.0 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
15220.01	25 g
15220.03	100 g

Quick Coomassie™ Stain

HS 38220000
Storage temperature +2 °C to +8 °C

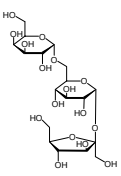
There are several benefits of our QC stain compared to other rapid and traditional Coomassie™ stains:
Rapid: 15 min non-toxic safe 1-step stain. No organic solvents and no phosphoric acid!
Sensitive: 50 x more sensitive than other rapid stains. Lower limit is 5 ng protein standard.
Linear range: Very low background enabling accurate quantitation of proteins.
High resolution: Sharp protein bands that you would expect with traditional Coomassie™ staining. Also MS compatible!
Durable: Re-usable up to 3 times!
Shelf life: 1 year at room temperature. No precipitate forms over time, thus no shaking required!

Coomassie is a trademark of ICI Ltd.

Cat.No.	Size
35081.01	1 L

α-D-Raffinose research grade

(α-D-Galactopyranosyl-(1 → 6)-α-D-glucopyranosyl-(1 → 2)-β-D-fructofuranoside)
$C_{18}H_{32}O_{16}·5H_2O$ ♦ M_r 594.56 ♦ CAS [17629-30-0]



EINECS 208-146-9 ♦ WGK 1 ♦ HS 29400000

For bacteriology.

Purity (HPLC)	min. 98.0 %
MP	78 - 82 °C
[α] 20 °C/D (c=10 % in water)	+103.0° to +108.0 °

Cat.No.	Size
34140.03	500 g

ReadyLyzer 0.25, MWCO 6 - 8 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 10 – 250 µl
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44620.01	10 pieces
44620.02	30 pieces

ReadyLyzer 0.25, MWCO 12 - 14 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 10 – 250 µl
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44621.01	10 pieces
44621.02	30 pieces

ReadyLyzer 0.8, MWCO 1 kDa

HS 39173200
Storage temperature +2 °C to +8 °C

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 50 – 800 µl
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44622.01	5 pieces

ReadyLyzer 0.8, MWCO 3.5 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 50 – 800 µl
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44623.01	10 pieces
44623.02	30 pieces

ReadyLyzer 0.8, MWCO 6 - 8 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 50 – 800 µl
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44624.01	10 pieces
44624.02	30 pieces

ReadyLyzer 3, MWCO 3.5 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 0.1 – 3 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44625.01	5 pieces
44625.02	15 pieces

ReadyLyzer 3, MWCO 6 - 8 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 0.1 – 3 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44626.01	5 pieces
44626.02	15 pieces

ReadyLyzer 3, MWCO 12 - 14 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 0.1 – 3 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44627.01	5 pieces
44627.02	15 pieces

ReadyLyzer 10, MWCO 1 kDa

HS 39173200
Storage temperature +2 °C to +8 °C

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 10 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44628.01	5 pieces

ReadyLyzer 10, MWCO 3.5 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 10 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44630.01	10 pieces

ReadyLyzer 10, MWCO 6 - 8 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 10 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44632.01	10 pieces

ReadyLyzer 10, MWCO 12 - 14 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 10 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44634.01	10 pieces

ReadyLyzer 20, MWCO 1 kDa

HS 39173200
Storage temperature +2 °C to +8 °C

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 20 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44629.01	5 pieces

ReadyLyzer 20, MWCO 3.5 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 20 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44631.01	10 pieces

ReadyLyzer 20, MWCO 6 - 8 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 20 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44633.01	10 pieces

ReadyLyzer 20, MWCO 12 - 14 kDa

HS 39173200

Ready-to-use dialysis system for quick and efficient dialysis and buffer exchange. The tube has the dialysis membrane pre-installed and is easily opened and closed with a screw cap. No struggling with closures and leaking knots or risking puncturing the membrane. Delivered with a flotation ring for improved buoyancy and vertical orientation.

- Volume size: 20 ml
- High recovery 98 %
- Ultrapure regenerated cellulose membrane

Cat.No.	Size
44635.01	10 pieces

Recombinant Protein A Sepharose FF Resin

HS 38220000

Protein A Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors.
Recombinant protein A has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 30 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

Specifications
Specificity: Protein A affinity antibodies
Matrix: Sepharose®
Coupled ligand: 3.5 mg Protein A/ml resin
Binding capacity (human IgG): 30 mg/ml
Bead size: 60 - 165 µm
Flow rate: 0.25 - 1 ml/min (recommended)
Maximum pressure: 120 - 140 psi
Buffer compatibility: Common aqueous buffers from pH 2.5 - 10
Binding buffer example: 1.5 M glycine/NaOH, 3 M NaCl pH 9.0
Elution buffer example (1): 0.1 M sodium citrate pH 5.5
Elution buffer example (2): 0.2 M glycine/HCl pH 2.5
Neutralization buffer example: 1 M Tris/HCl pH 9.0
Shipping/delivery: 50 % (v/v) resin suspension in 0.01 % thimerosal
Storage: 0.01 % thimerosal at 2 - 8 °C for up to 2 years from manufacture

Cat.No.	Size
42309.01	1 ml

Recombinant Protein A Sepharose FF Resin

HS 38220000

Protein A Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors.
Recombinant protein A has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 30 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western Blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

Specifications
Specificity: Protein A affinity antibodies
Matrix: Sepharose®
Coupled ligand: 3.5 mg Protein A/ml resin
Binding capacity (human IgG): 30 mg/ml
Bead size: 60 - 165 µm
Flow rate: 0.25 - 1 ml/min (recommended)
Maximum pressure: 120 - 140 psi
Buffer compatibility: Common aqueous buffers from pH 2.5 - 10
Binding buffer example: 1.5 M glycine/NaOH, 3 M NaCl pH 9.0
Elution buffer example (1): 0.1 M sodium citrate pH 5.5
Elution buffer example (2): 0.2 M glycine/HCl pH 2.5
Neutralization buffer example: 1 M Tris/HCl pH 9.0
Shipping/delivery: 50 % (v/v) resin suspension in 0.01 % thimerosal
Storage: 0.01 % thimerosal at 2 - 8 °C for up to 2 years from manufacture

Cat.No.	Size
42310.01	5 ml

Recombinant Protein A Sepharose FF Resin

HS 38220000

Protein A Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors.
Recombinant protein A has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 30 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western Blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

Specifications
Specificity: Protein A affinity antibodies
Matrix: Sepharose®
Coupled ligand: 3.5 mg Protein A/ml resin
Binding capacity (human IgG): 30 mg/ml
Bead size: 60 - 165 µm
Flow rate: 0.25 - 1 ml/min (recommended)
Maximum pressure: 120 - 140 psi
Buffer compatibility: Common aqueous buffers from pH 2.5 - 10
Binding buffer example: 1.5 M glycine/NaOH, 3 M NaCl pH 9.0
Elution buffer example (1): 0.1 M sodium citrate pH 5.5
Elution buffer example (2): 0.2 M glycine/HCl pH 2.5
Neutralization buffer example: 1 M Tris/HCl pH 9.0
Shipping/delivery: 50 % (v/v) resin suspension in 0.01 % thimerosal
Storage: 0.01 % thimerosal at 2 - 8 °C for up to 2 years from manufacture

Cat.No.	Size
42311.01	25 ml

Recombinant Protein G Sepharose FF Resin

HS 38220000

Protein G Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors.
Recombinant protein G has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 20 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western Blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

Specifications
Specificity: Protein G affinity antibodies
Matrix: Sepharose®
Coupled ligand: 2 mg Protein G/ml resin
Binding capacity (human IgG): 20 mg/ml
Bead size: 45 - 165 µm
Flow rate: 0.25 - 1 ml/min (recommended)
Maximum pressure: 120 - 140 psi
Buffer compatibility: Common aqueous buffers from pH 2.5 - 10
Binding buffer example: 0.1 M sodium phosphate, 0.15 M NaCl, pH 7.4
Elution buffer example: 0.2 M glycine/HCl pH 2.5
Neutralization buffer example: 1 M Tris/HCl pH 9.0
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol
Storage: 20 % ethanol at 2 - 8 °C for up to 2 years from manufacture

Cat.No.	Size
42312.01	1 ml

Recombinant Protein G Sepharose FF Resin

HS 38220000

Protein G Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors.
Recombinant protein G has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 20 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western Blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

Specifications
Specificity: Protein G affinity antibodies
Matrix: Sepharose®
Coupled ligand: 2 mg Protein G/ml resin
Binding capacity (human IgG): 20 mg/ml
Bead size: 45 - 165 µm
Flow rate: 0.25 - 1 ml/min (recommended)
Maximum pressure: 120 - 140 psi
Buffer compatibility: Common aqueous buffers from pH 2.5 - 10
Binding buffer example: 0.1 M sodium phosphate, 0.15 M NaCl, pH 7.4
Elution buffer example: 0.2 M glycine/HCl pH 2.5
Neutralization buffer example: 1 M Tris/HCl pH 9.0
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol
Storage: 20 % ethanol at 2 - 8 °C for up to 2 years from manufacture

Cat.No.	Size
42313.01	5 ml

Recombinant Protein G Sepharose FF Resin

HS 38220000

Protein G Sepharose® FF Resin designed for simple, one-step and rapid antibody purification from serum, ascites and tissue culture supernatant such as those derived from static cultures and bioreactors.
Recombinant protein G has been coupled to Sepharose® to obtain a stable matrix with a high binding capacity for immunoglobulins via the heavy chain of the FC region (up to 20 mg/ml Human IgG). Antibody samples purified using this affinity resin may be used in a wide range of laboratory procedures such as 1D or 2D polyacrylamide gel electrophoresis, Western Blotting, ELISA etc. Binding affinity varies depending upon the source species and subclass.

Specifications
Specificity: Protein G affinity antibodies
Matrix: Sepharose®
Coupled ligand: 2 mg Protein G/ml resin
Binding capacity (human IgG): 20 mg/ml
Bead size: 45 - 165 µm
Flow rate: 0.25 - 1 ml/min (recommended)
Maximum pressure: 120 - 140 psi
Buffer compatibility: Common aqueous buffers from pH 2.5 - 10
Binding buffer example: 0.1 M sodium phosphate, 0.15 M NaCl, pH 7.4
Elution buffer example: 0.2 M glycine/HCl pH 2.5
Neutralization buffer example: 1 M Tris/HCl pH 9.0
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol
Storage: 20 % ethanol at 2 - 8 °C for up to 2 years from manufacture

Cat.No.	Size
42314.01	25 ml

Rehydration Tray for IPG Strips

HS 90272000

To rehydrate up to 12 IPG strips in lengths up to 24 cm. The rehydration tray is form stable and resistant against chemicals normally used when rehydrating IPG strips. The binding capacity to proteins is very low. The lid protects the IPG strips during rehydration against contamination. After usage the tray can easily be cleaned using a mild washing-up liquid and rinsed with distilled water.

Cat.No.	Size
43091.01	1 piece

Renlam® M-1

(ARALDITE® CY 212)

WARNING
H315-H317-H319-H411 ♦ GGVSE/ADR 9 III UN3082 ♦ IATA 9 III UN3082 ♦ WGK 2 ♦ HS 29109000

Solvent-free, modified bisphenol A epoxy resin. Epoxy equivalent weight 232 - 250. Yields 3-dimensional crosslinking blocks.
Non-toxic substitute for ARALDITE® CY 212, which contained dibutyl phthalate. Renlam® M-1 has identical properties as ARALDITE® CY 212 and can therefore be used in all electron microscopy protocols in exactly the same way as ARALDITE® CY 212.

Viscosity	1400 - 1800 mPa·s/25 °C
Epoxy number	4.10 - 4.35 eq./kg

Renlam+ ARALDITE = trademarks of Huntsman Advanced Materials Europe

Cat.No.	Size
13825.02	1 kg

Replacement Bulb 8 W, 254 NM

HS 90278017

Cat.No.	Size
UV-8-254.01	1 pieces

Replacement Bulb 8 W, 312 NM

HS 90278017

Cat.No.	Size
UV-8-312	1 piece

Replacement Electrode for BM-100 (one pair)

HS 90279050

Cat.No.	Size
BM-100-RE	1 piece

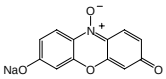
Replacement Electrode for BM-200 (one pair)

HS 90279050

Cat.No.	Size
BM-200-RE	1 piece

Resazurin·Na-salt analytical grade

(Diazoresorcinol)
$C_{12}H_6NO_4$·Na ♦ M_r 251.2 ♦ CAS [62758-13-8]



WARNING
H302-H315-H319-H335 ♦ EINECS 263-718-5 ♦ HS 29349990

Resazurin is a blue non-fluorescent dye used as a redox indicator in cell viability and proliferation assays for bacteria, yeast or mammalian cells. In viable cells the blue form of the dye is irreversibly reduced by enzymes to the highly red-fluorescent product resorufin (excitation: 530 - 540 nm; emission: 585 - 595 nm), which can be detected by flow cytometry, fluorescence microscopy, and high-throughput screening methods. Resazurin is minimally toxic to living cells, making it suitable for use in long-term cell culture.

Cat.No.	Size
34226.02	5 g

Resazurin Cell Viability Assay

HS 38220000
Storage temperature -15 °C to -25 °C

The Resazurin Cell Viability Assay is a fluorescent assay that detects the cellular metabolic activities. The kit offers a simple, rapid, reliable, sensitive, safe, and cost-effective measurement of cell viability. Resazurin is a blue non-fluorescent dye until it is irreversibly reduced to the pink colored, highly red fluorescent resorufin by dehydrogenase enzymes in metabolically active cells. The fluorescent signal is monitored using 530 – 560 nm exication wavelength and 590 nm emission wavelength. The absorbance is monitored at 570 nm and 600 nm. The fluorescent or colorimetric signal generated is proportional to the number of living cells in the sample.

Cat.No.	Size
39905.01	4x 2,500 react.

Ribonuclease A from bovine pancreas min. 80 Kunitz units/mg lyophil.

(Pancreatic RNase; ribonuclease I; ribonucleate 3-pyrimidino-oligonucleotidohydrolase)
EC 3.1.27.5 ♦ M_r ca. 13 700 ♦ CAS [9001-99-4]

DANGER
H334 ♦ EINECS 232-646-6 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

An endonuclease which specifically attacks pyrimidine sites (Py/pN) at the 3'-phosphate group. This preparation is salt-free, protease-free and chromatographically homogeneous.
RNase A content: min. 90 % by ion exchange chromatography. DNase not detected.

Unit definition: 1 unit is that amount of activity which is capable of causing within 1 minute a decrease in absorbance at 300 nm equivalent to the maximum possible change in a 0.05 % solution of yeast RNA at 25 °C, pH 5.0

References:

1. Kunitz, M. (1946) J. Biol. Chem. ***164,*** 563-8
2. Krupp, G. & Gross, H.J. (1979) Nucl. Acids Res. ***6,*** 3481-90
3. Levy, C.C. & Kaepetzky, T.P. (1980) J. Biol. Chem. ***255,*** 2153-9
4. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (5.81)
5. Ed. Ausubel et al. (1994) Current Protocols in Molecular Biology, Massachusetts General Hospital & Harvard Medical School (3.13.1, 5.5.2, 4.7.3, 7.3.8)

Cat.No.	Size
34388.01	50 mg
34388.02	250 mg

Ribonuclease A from bovine pancreas min. 70 Kunitz units/mg lyophil.

EC 3.1.27.5 ♦ M_r ca. 13 700 ♦ CAS [9001-99-4]

DANGER
H334 ♦ EINECS 232-646-6 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

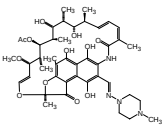
RNase A content approx. 70 %.
DNase-free RNase: To prepare RNase A free of DNase dissolve RNase A in TE buffer at 1 mg/ml and boil 10 to 30 minutes. Store aliquots at -20 °C to prevent microbial growth.

Unit definition: 1 unit is that amount of activity which is capable of causing within 1 minute a decrease in absorbance at 300 nm equivalent to the maximum possible change in a 0.05 % solution of yeast RNA at 25 °C, pH 5.0.

Cat.No.	Size
34390.02	100 mg
34390.03	1 g

Rifampicin research grade

(Rifampin „Lepetit"; Rifamycin-AMP)
$C_{43}H_{58}N_4O_{12}$ ♦ M_r 822.96 ♦ CAS [13292-46-1]



WARNING
H302-H332 ♦ EINECS 236-312-0 ♦ WGK 1 ♦ HS 29419000
Storage temperature +2 °C to +8 °C

Semisynthetic derivative of rifamycin SV which is produced from certain strains of *Amycolatopsis mediterranei*. Belongs to the group of ansamycin antibiotics. Inhibitor of DNA-dependent RNA-polymerase. Specifically inhibits the initiation step of RNA synthesis.

Assay 98.0 - 102.0 %

References:

1. Meilhac, M. et al. (1972) Eur. J. Biochem. ***28,*** 291-300
2. Ohta, S. et al. (1990) . Plant Physiol. ***31,*** 805-13
3. Dreher, J. et al. (1991), Molecular Microbiology, ***5*** (12), 3025-3034
4. Vilchez, S. et al. (2000) J. Bacteriol. ***182***, 91-9
5. Schwalb, C. et al. (2003) Biochemistry ***42***, 9491-7
6. Freiberg, C. et al. (2004) Current Opinion in Microbiology ***7***, 451-9

Cat.No.	Size
34514.01	1 g
34514.02	5 g

RIPA Buffer

HS 38220000
Storage temperature +2 °C to +8 °C

RIPA buffer is a very effective buffer for lysis of cultured mammalians cells. It enables protein extraction from cytoplasmic, membrane and nuclear proteins. The buffer is compatible with many applications like protein purification, protein assays, Western blotting, reporter assays etc. However, it will disrupt protein-protein interactions and may therefore disturb applications like immunoprecipitation and pull-down assays.

Cat.No.	Size
39244.01	100 ml
39244.02	500 ml

Roller for Electrophoresis

HS 90330000

Cat.No.	Size
42991.01	1 piece

Salt Active Nuclease

HS 35079090
Storage temperature -15 °C to -25 °C ❄❄

Supplied as solution in 25 mM Tris-HCl pH 7.5, 5 mM $MgCl_2$, 0.5 M NaCl, 0.01 % Tween 20, 50 % (v/v) glycerol.
Salt Active Nuclease is a highly active non-specific endonuclease from a marine bacterium that cleaves both DNA and RNA. It digests DNA versus RNA in a 10:1 ratio.
Salt Active Nuclease has optimum activity at 0.5 M NaCl, is active in the pH range of 7 to 10 and low temperatures, which makes the enzyme ideal for use in removal of nucleic acids from cell extracts and protein samples. It will remove contaminating nucleic acids in a traditional protein buffer system. That guarantees the full protection of proteins while the nucleic acids are fully removed.

- Non-specific endonuclease
- Optimum activity at high salt concentration (0.5 M NaCl)
- Active at low temperatures (20 % at 6 ºC)
- Broad pH range
- Easily inactivated by reducing agents

pH optimum	pH 9
Salt optimum	0.5 M NaCl

Unit definition: One unit is defined as an increase in absorbance at 260 nm of 0.001 per minute at 37 ºC, using 50 µg/ml calf thymus DNA in a buffer consisting of 25 mM Tris-HCl, pH 8.5 (25 ºC), 5 mM $MgCl_2$, 500 mM NaCl.

Cat.No.	Size
18541.01	5.000 U

Sample Application Pieces 10 x 5 mm

HS 48232000

For application of samples on the surface of IEF gels. The sample application pieces are placed on the gel surface at the optimal pH location.

Cat.No.	Size
42880.01	200 pieces

Sample Buffer for Blue Native (2x)

HS 38220000
Storage temperature -15 °C to -25 °C

Sample buffer for Blue Native PAGE. Supplied as 2x concentrate. Contains 1 M 6-aminocaproic acid, 100 mM BisTris-HCl (pH 7.0), 100 mM NaCl, 20 % glycerol, 0.1 % SERVA Blue G.

Cat.No.	Size
42533.01	20 ml

Sample Buffer for Clear Native (2x)

HS 38220000
Storage temperature -15 °C to -25 °C

Sample buffer for Clear Native PAGE. Supplied as 2x concentrate. Contains 100 mM NaCl, 100 mM imidazole, 4 mM 6-aminocaproic acid, 2 mM EDTA, 0.02 % Ponceau S, 20 % glycerol.

Cat.No.	Size
42534.01	20 ml

Saponin pure, DAB

CAS [8047-15-2]

WARNING
H315-H319-H335 ♦ EINECS 232-462-6 ♦ WGK 2L ♦ HS 29389090

Saponin is a non-ionic glycoside surfactant from plants. The detergent forms oil-in-water emulsions and acts as protective colloid.
It is used in cell permeabilization, separation of low molecular weight contaminants, and as an adjuvant in vaccine development.

References:
1. Lupetina, E.G. et al. (1984) Proc. Natl. Acad. Sci. USA ***81,*** 7431

Cat.No.	Size
34655.01	50 g
34655.02	250 g

Sarkosyl NL-30

see 27570 N-Lauroylsarcosine·Na-salt, page 63

Schneider's Drosophila Powder Medium Revised

HS 38210000
Storage temperature +2 °C to +8 °C

Without sodium bicarbonate, **without** calcium chloride.

Supplements:

Penicillin G·K-salt (cat. no. 31749)	50 U/ml
Streptomycin sulfate (cat. no. 35500)	0.1 mg/ml

References:
1. Schneider, I. (1964) J. Exp. Zool. ***156,*** 91-104 and 166

Cat.No.	Size
47521.04	10 L

SDS

see 20760 Dodecylsulfate·Na-salt, page 35

SDS Gel Kit 10 % 25S Size: 250 x 125 x 0.45 mm

HS 38220000

Kit for horizontal SDS polyacrylamide gel electrophoresis. Contains 4 film-backed 10 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For the run on horizontal flatbed systems like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43359.01	1 kit

SDS Gel Kit 10 % 52S Size: 250 x 125 x 0.45 mm

HS 38220000

Kit for horizontal SDS polyacrylamide gel electrophoresis. Contains 4 film-backed 10 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 52 slots for 6 µl) and a SDS PAGE buffer kit. For the run on horizontal flatbed systems like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43360.01	1 kit

SDS Gel Kit 15 % 25S Size: 250 x 125 x 0.45 mm

HS 38220000

Kit for horizontal SDS polyacrylamide gel electrophoresis. Contains 4 film-backed 15 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. For the run on horizontal flatbed systems like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43361.01	1 kit

SDS Gel Kit 15 % 52S Size: 250 x 125 x 0.45 mm

HS 38220000

Kit for horizontal SDS polyacrylamide gel electrophoresis. Contains 4 film-backed 15 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 52 slots for 6 µl) and a SDS PAGE buffer kit. For the run on horizontal flatbed systems like HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43362.01	1 kit

SDS Gel Kit NF 12.5 % 25S Size: 250 x 125 x 0.45 mm

HS 38220000

Ready-to-use gel kit for 1-dimensional DIGE samples and all other fluorescent visualizations. Contains 4 film-backed 12.5 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 25 slots for 15 µl) and a SDS PAGE buffer kit. On non-fluorescent film support for HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43363.01	1 kit

SDS Gel Kit NF 15 % 25S Size: 250 x 125 x 0.45 mm

HS 38220000

Ready-to-use gel kit for 1-dimensional DIGE samples and all other fluorescent visualizations. Contains 4 film-backed 15 % T precast SDS PAGE gels (size 250 x 125 x 0.45 mm, 25 slots for 6 µl) and a SDS PAGE buffer kit. On non-fluorescent film support for HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43364.01	1 kit

SDS pellets

see 20765 Dodecylsulfate·Na-salt in Pellets, page 35

SDS Solution, 20 %

WARNING
H315-H319-H335 ♦ WGK 2 ♦ HS 38220000

For use in biochemical, electrophoretical and molecular biology applications.
Composition:
SDS: 200 g/L

Cat.No.	Size
20767.01	100 ml
20767.02	500 ml
20767.03	1 L

SDS Solution, 20 % molecular biology grade

WARNING
H315-H319-H335 ♦ WGK 2 ♦ HS 38220000

DNase/RNase not detected. For molecular biology applications.

Composition:
SDS: 200 g/L

Cat.No.	Size
39575.01	100 ml
39575.02	1 L

SDS Solution, 20 % electrophoresis grade

WARNING
H315-H319-H335 ♦ HS 38220000

Ultrapure SDS solution, suitable for standard and high resolution electrophoresis techniques.

Composition:
SDS: 200 g/L

Cat.No.	Size
20768.02	500 ml
20768.03	1 L

SDS Urine Gel Kit 25S Size: 250 x 125 x 0.45 mm

HS 38220000
Storage temperature +2 °C to +8 °C

Ready-to-use kit for analysis of urine proteins by SDS polyacrylamide gel electrophoresis: 25 slots for 15 µl, 4 gels + buffer kit suitable for urine protein analysis; for HPE™ BlueTower, HPE™ BlueHorizon and Multiphor II™.

Cat.No.	Size
43391.01	1 kit

Semi-Dry Blotting Buffer Kit for Western Blotting

DANGER
H370 ♦ WGK 1 ♦ HS 38220000

For Western Blotting in the „Semi-Dry“ System. Ready-to-use kit, consisting of 3 components:
Buffer I (conc. anode buffer): 0.3 M Tris and 20 % methanol in aqueous solution.
Buffer II (diluted anode buffer): 0.03 M Tris and 20 % methanol in aqueous solution.
Buffer III (cathode buffer): 0.025 M Tris/HCl (pH 9.4), 0.04 M 6-aminocaproic acid and 20 % methanol in aqueous solution.

Cat.No.	Size
42559.01	3 x 500 ml

SERDOLIT® Chelite® P analytical grade

HS 39140000

Off-white beads with a macroporous resin structure and a general affinity for polyvalent metal cations which may be employed for special techniques (e.g. $^{90}Sr^{++}$ determination).
Styrene-DVB matrix with aminomethylphosphonic acid groups. Sodium form. The total capacity, expressed in g Cu/l is 45. Maximum working temperature: 65 °C. Complete desorption can be effected by 5 volumes of 2 N HCl.

Capacity	min. 1.1 eq/l
Particle size	20 - 50 mesh (0.3 - 0.8 mm)
Loss on drying	60 - 70 %

Cat.No.	Size
41706.01	250 g
41706.02	1 kg

SERDOLIT® MB analytical grade

HS 39140000

Mixed-bed ion exchanger with exhaustion indicator composed of SERDOLIT® Blue (OH^--form) and SERDOLIT® CS-2 (H^+-form) in a ratio at approx. 1.5:1 (v/v); ready-to-use, suitable for demineralizing water.

Capacity	min. 0.8 eq/l
Particle size	16 - 50 mesh (0.3 - 1.2 mm)
Loss on drying	50 - 65 %

Cat.No.	Size
45500.03	500 g

SERDOLIT® MB-1 analytical grade

HS 39140000

Mixed-bed ion exchanger composed of a strongly acidic cation exchanger and a strongly basic anion exchanger (type I) in a ratio of 1:1.5 (v/v).

Capacity	min. 1.0 eq/l
Particle size	16 - 50 mesh (0.3 - 1.2 mm)
Loss on drying	55 - 65 %

Cat.No.	Size
40701.03	500 g
40701.02	1 kg

SERDOLIT® PAD I, 0.1 - 0.2 mm analytical grade

(Ion Exchange Media)
HS 39140000

Apolar polystyrene/DVB matrix, macroporous.

Particle Size	0.1 - 0.2 mm
Spec. surface	min. 250 m^2/g
Pore Size	ca. 25 nm
Loss on Drying	40 - 50 %

Cat.No.	Size
42443.01	100 g

SERDOLIT® PAD III, 0.1 - 0.2 mm analytical grade

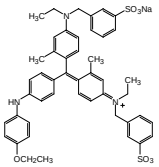
HS 39140000

Apolar polystyrene/DVB matrix, macroporous. Extremely large specific surface resulting in high adsorption capacity and kinetics.

Particle size	0.1 - 0.2 mm
Spec. surface	min. 800 m^2/g
Pore size	ca. 25 nm
Loss on drying	45.0 - 55.0 %

Cat.No.	Size
42449.01	100 g

SERVA Blue G



(Acid Blue 90; COOMASSIE® Brilliant Blue G-250; Xylene Brilliant Cyanine G)
C.I.42655 ♦ $C_{47}H_{48}N_3O_7S_2 \cdot Na$ ♦ M_r 854.0 ♦
CAS [6104-58-1]

EINECS 228-058-4 ♦ WGK 2L ♦ HS 32041200

Tested for preparation of staining solution for polyacrylamide gel electrophoresis. Triphenylmethane dye used in protein gel electrophoresis for detection of proteins and with the Bradford method to determine protein concentration. SERVA Blue G is differentiated from SERVA Blue R by the addition of two methyl groups and the slightly greenish tint to its blue color. The dye may exist as a cation (red form) at a pH below 0 with an absorbance peak at 470 nm, an anion (blue form) at a pH above 2 with an absorbance peak at 595 nm, and a neutral, green form at a pH around 1 with an absorbance peak around 650 nm. The blue, anionic form is what binds with amino acid residues, such as arginine or aromatics, to form a stable complex.

λ max. (0.001 % pH 7)	580 - 590 nm
A 1 cm/λ max./1 % pH 7	min. 450

COOMASSIE= TM of ICI Ltd.

Cat.No.	Size
35050.02	25 g
35050.03	100 g

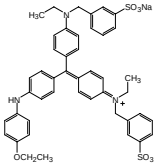
SERVA Blue G Solution for Blue Native, 1%

HS 38220000

Solution for preparing the blue stained cathode running buffer for Blue Native gel electrophoresis.
SERVA Blue G (cat. no. 35050): 10 g/l in aqua dest.

Cat.No.	Size
42538.01	20 ml

SERVA Blue R



(Acid Blue 83; COOMASSIE® Brilliant Blue R-250)
C.I.42660 ♦ $C_{45}H_{44}N_3O_7S_2 \cdot Na$ ♦ M_r 826.0 ♦
CAS [6104-59-2]

EINECS 228-060-5 ♦ WGK 2L ♦ HS 32041200

Tested for preparation of staining solution for polyacrylamide gels. R stands for „reddish“. Sensitive triphenylmethane dye for detection of proteins in polyacrylamide gels. It may be combined with other stains, such as silver stain, to distinguish different types of proteins.

λ max. (0.0002 % pH 7)	558 - 562 nm
A 1 cm/λ max./0.0002 % pH 7	min. 0.06
ϵλmax pH 7	min. 25 000

COOMASSIE= TM of ICI Ltd.

Cat.No.	Size
35051.02	25 g
35051.03	100 g

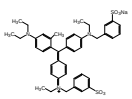
SERVA Blue R Staining Kit

DANGER
H225-H314 ♦ WGK 1 ♦ HS 38220000

Contains 500 ml 0.2 % SERVA Blue R in ethanol and 500 ml 20 % acetic acid.

Cat.No.	Size
42531.01	1 kit

SERVA Blue W soluble in water



(Acid Blue 15)
C.I.42645 ♦ $C_{42}H_{46}N_3O_6S_2 \cdot Na$ ♦ M_r 776.0 ♦
CAS [5863-46-7]

EINECS 227-511-3 ♦ WGK 2L ♦ HS 32041200

A triphenylmethane dye, more lipophilic methyl homologue of SERVA Violet R. Suitable for round gels of PAGE, also for flat gels 0.1 - 1.0 mm thick.

λ max. (0.001 % pH 7)	566 - 564 nm
A 1 cm/λmax./0.001 % pH 7	min. 0.5

Cat.No.	Size
35053.02	25 g
35053.03	100 g

SERVA BlueForceps

HS 90272000

Specially shaped foreceps for easy handling of gels and membranes.

Cat.No.	Size
SBF-01	1 piece

SERVA Blue-White Light Table

HS 90275000

The Blue/White Light Table is a dual light source transilluminator for bottom-up LED illumination. It is adjustable to 3 individual light intensities, the amber filter is hinge-free, magnetic positioned. A gel cutting knife as well as a cardboard hood for image capturing with a smartphone are included.

- Filter size 180 mm x 120 mm
- 5 minutes automatic power-off
- Stable metal housing
- Enhanced portability with PowerBank (optional)
- Dimensions and weight: 185 mm x 30 mm x 220 mm, 1.45 kg

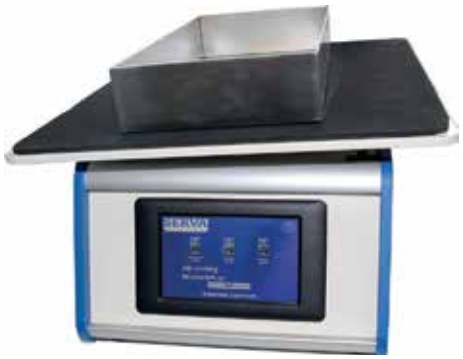
Cat.No.	Size
BWL-T	1 piece

SERVA BlueShake

HS 84798200

SERVA BlueShake is a next generation rocking table. A solid aluminum housing, top quality electronic components and mechanics that meet the highest demands make BlueShake a laboratory device that is also ideally equipped for continuous use in research and diagnostic laboratories.
The device is characterized by a sturdy, durable construction: Built on an aluminum housing, it is equipped with robust, precisely running motors. The movement of the table can be controlled manually in all directions at a freely adjustable speed. For a gentle staining or immunoblotting process, the angle of inclination is 4°. The generously dimensioned touch screen is absolutely waterproof and, like the entire device, easy to clean. The built-in mechanism is maintenance-free.
The large touch screen allows easy and intuitive operation of the device. If necessary, adjust time, rocking direction and speed, start, done.

- 4° angle of inclination for gentle movement
- Large table surface for versatile use
- Timer function
- Direction of movement freely selectable (forward/ reverse - lateral - circular)
- Robust design - Made in Germany



Cat.No.	Size
BSH-01	1 piece

SERVA BlueStain

HS 84798200

SERVA BlueStain automatically stains polyacrylamide gels. Accurate, reproducible, user-friendly. The system pumps the required liquids into the gel tray. Pumping out after the preset incubation time is fast and complete. Thanks to SERVA BlueStain you can stain gel around gel using the same protocol. This makes the device interesting for research, but especially for the diagnostic laboratory.
The SERVA BlueStain staining machine as an universal gel stainer is used in research and diagnostics where a high number of gels have to be stained and/or a reproducible method is essential. The device is suitable for the whole range of currently applied staining methods. The simple operation, the absolutely robust mechanics and the results achieved with the device make it an indispensable tool in your laboratory. Programs are pre-installed on delivery, e.g. silver staining.
To start the staining process, first connect the appropriate storage containers (e.g. water, fixing solution, dye solution, waste, etc.) to the respective tubes. Now you can start after selecting the staining program. Using a simple export function, you can save the actual steps performed at the end of the staining process and thus document the corresponding log.
Due to flexible programming you can create your own logs or modify existing or pre-installed programs at any time. To do this, copy any program, make the desired changes and save the newly created program under its own name. You can also intervene in a program that is already running, i.e. cancel a step and go to the next step. This can be important, for example, in silver staining, in order to avoid overcoloring of the gel (silver mirror).

The device is characterized by a sturdy, long lasting construction: Built on an aluminum housing, equipped with robust, precisely running motors, sophisticated electronics and high-quality 10-valve pump technology.
The device is equipped with a staining tray measuring 30 cm x 25 cm for large-format gels. Optional equipment for staining gels with smaller formats is available. The movement of the table can be controlled manually in all directions at a freely adjustable speed. For a gentle staining process, the angle of inclination of the table is 4°. The generously dimensioned touch screen is absolutely waterproof and, like the entire device, easy to clean. The built-in mechanism is maintenance-free. Replacement tubes are available as accessories.

- Suitable for all staining protocols
- Pre-installed standard programs
- Free modification/entry of further programs
- 4° angle of inclination for gentle movement
- Large gel tray (30 cm x 25 cm)
- Optionally adaptable for mini gels and other formats

Cat.No.	Size
BST-01	1 piece

SERVA BlueStain Pharma Edition

HS 90278080

The SERVA BlueStain Pharma Edition includes the SERVA BlueStain, a specially configured printer and an upgraded preinstalled firmware. This combination is FDA CFR part11 ready:

- Password protected - password assignment exclusively by superuser
- Changes in program flow only by logged-in user
- Data transfer of executed programs to USB stick only by superuser
- IQ/OQ/PQ and maintenance contract on request

Cat.No.	Size
BST-PU	1 kit

SERVA BlueStain Mini Tray with lid

HS 90278080

Medium gel tray (30 cm x 14 cm) for SERVA BlueStain gel stainer

Cat.No.	Size
BST-MT	1 piece

SERVA BlueStain Printer

HS 90278080

Cat.No.	Size
BSP-01	1 piece

SERVA BlueStain Pump Tube Replacement

HS 90272000
SERVA BlueStain Pump Tube Replacement includes pump tube, connection tubing to tray/valve, connectors and zip ties.

Cat.No.	Size
BST-R02	1 kit

SERVA BlueStain Replacement Tray with Lid

HS 90272000

Cat.No.	Size
BST-RT	1 piece

SERVA BlueStain Spare Part Kit

HS 90272000
SERVA BlueStain spare part kit includes all spare parts needed for maintenance, like tubes, number clips, valve/pump tubing, connectors and zip ties.

Cat.No.	Size
BST-R01	1 kit

SERVA Cellophane Sheets II

HS 39207100

Format: 140 x 133 mm. For drying of mini vertical slab gels (up to 10 x 10 cm).

Cat.No.	Size
42524.01	200 sheets

SERVA Clear G Agarose Tablets

HS 38220000

SERVA Clear G Agarose Tablets are fast-solving tablets which already contain the optimal amount of the non-carcinogenic sensitive fluorescent dye DNA Stain Clear G.
Just add the running buffer of your choice, solve the agarose and your agarose gel is ready!

- For analytical and preparative DNA and RNA gel electrophoresis and blotting (100 bp - ≥30 kb)
- Fast-solving agarose for gels with high clarity and low background
- Optimized mixture for high resolution of sharp bands with high sensitivity
- No clumping because separately packed in blister pack

Cat.No.	Size
39811.01	100 Tablets

SERVA Co-IDA HD Agarose Resin

HS 38220000

High density cobalt-iminodiacetic acid (IDA) crosslinked agarose resin for low pressure affinity chromatography. The high amount of available cobalt chelate groups allows for high binding capacity. Cobalt chelates recognize two exposed vicinal histidine tags with excellent specificity, but lower affinity as nickel or zinc chelates. The Co-IDA agarose resin is therefore the optimal choice, if highly pure proteins are needed or difficult to separate proteins have to be purified. Suitable for batch or column purifications.
Binding/loading capacity: 20 - 40 µmol Me^{2+}/ml gel.

Cat.No.	Size
42143.01	25 ml
42143.02	100 ml

SERVA CSF Silver Staining Kit

DANGER
H225-H314-H331-H334-H411 ♦
HS 38220000

High sensitive silver staining kit for staining of up to 5 film-backed, ultra-thin horizontal IEF gels for CSF analysis.

Cat.No.	Size
43398.01	1 kit

SERVA DNA Stain G

WARNING
H315-H319 ♦ HS 38220000

SERVA DNA Stain G is a safer alternative to traditional ethidium bromide stain for detecting nucleic acids in agarose gels. It is at least as sensitive as ethidium bromide and can be used in exactly the same way in agarose gel electrophoresis. SERVA DNA Stain G can be added to the gel solution, working dilution is 1:20,000 to 1:50,000.
SERVA DNA Stain G emits green fluorescence when bound to DNA or RNA. It has one fluorescence exication maximum at ca. 300 nm and another at ca. 450 nm when bound to nucleic acid.
SERVA DNA Stain G is non-carcinogenic and according to the AMES test it causes significantly fewer mutations than ethidium bromide.

Cat.No.	Size
39803.01	1 ml
39803.02	5 x 1 ml

SERVA DNA Stain Clear G

WARNING
H315-H319 ♦ HS 38220000

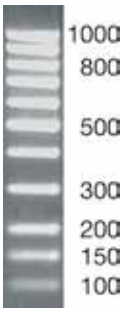
SERVA DNA Stain Clear G is a new, non-carcinogenic, much more sensitive and convenient version of our SERVA DNA Stain G. It can be used instead of highly carcinogenic ethidium bromide for detecting nucleic acids in agarose gels.
SERVA DNA Stain Clear G emits green fluorescence when bound to DNA or RNA. It has two secondary fluorescence excitation peaks (ca. 270 nm and 295 nm) and one strong excitation peak centered around 490 nm. The fluorescence emission is similar to EtBr at ca. 530 nm when bound to nucleic acid.
Pre-casting and post-staining protocols are applicable.
1 ml of this stain is sufficient for 17 - 25 L of agarose gel.

Cat.No.	Size
39804.01	1 ml
39804.02	5 x 1 ml

SERVA DNA Standard 100 bp Ladder Equimolar, lyophilized

HS 38220000
Storage temperature -15 °C to -25 °C

The SERVA DNA Standard 100 bp Ladder equimolar contains 11 fragments ranging from 100 bp to 1000 bp:
100, 150, 200, 300, 400, 500 (2x), 600, 700, 800, 900 and 1000 bp.
Ideal for the analysis of DNA fragments generated from plasmid DNA or for PCR generated DNA fragments. For optimal results use 1.5 - 2 % agarose gels. A separation distance of 60 - 80 mm is recommended. All fragments with EcoRI ends for easy labelling, the 5'-end labeled DNA marker behaves like an equalized DNA marker.
For at least 50 applications. Instructions of use and 1 ml separate loading dye solution for resuspension of the lyophilized DNA fragments are included.

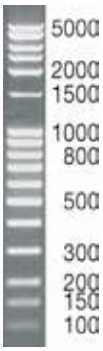


Cat.No.	Size
39311.01	50 µg

SERVA DNA Standard 100 bp Ladder Extended, lyophilized

HS 38220000
Storage temperature -15 °C to -25 °C

The SERVA DNA Standard 100 bp Ladder extended contains 17 fragments ranging from 100 bp to 5000 bp:
100, 150, 200, 300, 400, 500 (2x), 600, 700, 800, 900, 1000, 1500, 2000, 2500, 3000, 4000 and 5000 bp.
Ideal for the analysis of DNA fragments generated from plasmid DNA or for PCR generated larger DNA fragments.
For optimal results use 1.0 - 2.0 % agarose gels. A separation distance of 60 - 80 mm is recommended. All fragments with EcoRI ends for easy 5'-end labelling.
For at least 50 applications. Instructions of use and 1 ml separate loading dye solution for resuspension of the lyophilized DNA fragments are included.



Cat.No.	Size
39312.01	50 µg

SERVA Dryer Frame Kit

HS 90330000

For drying of mini vertical slab gels (to up to 10 x 10 cm). Containing 2 dryer frames and 200 cellophane sheets.

Cat.No.	Size
42523.01	1 kit

SERVA FastLoad 50 bp DNA Ladder

HS 38220000
Storage temperature -15 °C to -25 °C

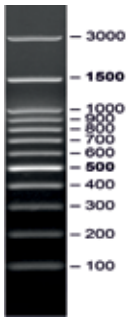
Ready-to-Use DNA standard for agarose gel electrophoresis containing 17 fragments from 50 – 1500 base pairs. The 500 bp, 1000 bp, 1200 bp, and 1500 bp bands have increased intensity and serve as reference points. For estimation of DNA mass of bands of similar size with comparable intensity, the approximate mass of each band is indicated (0.74 µg/load).
Recommended load is 5 µl/well. Contains Orange G as tracking dye.
Stable for 12 months at 4 °C. For long term storage store at -20 °C.

Cat.No.	Size
39315.01	500 µl

SERVA FastLoad 100 bp DNA Ladder

HS 38220000
Storage temperature -15 °C to -25 °C

Ready-to-Use DNA standard for agarose gel electrophoresis containing 12 fragments from 100 – 3000 base pairs. The 500 bp and 1500 bp bands have increased intensity and serve as reference points.
For estimation of DNA mass of bands of similar size with comparable intensity, the approximate mass of each band is indicated (0.54 µg/load).
Recommended load is 5 µl/well. Contains Orange G and Xylene Cyanol as tracking dye.
Stable for 6 months at 25 °C and for 12 months at 4 °C.
For long term storage store at -20 °C.

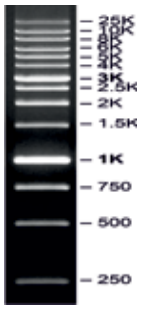


Cat.No.	Size
39316.01	500 µl

SERVA FastLoad 1 kb DNA Ladder

HS 38220000
Storage temperature -15 °C to -25 °C

Ready-to-Use DNA standard for agarose gel electrophoresis containing 14 fragments from 250 – 25000 base pairs. The 1000 bp and 3000 bp bands have increased intensity and serve as reference points. For estimation of DNA mass of bands of similar size with comparable intensity, the approximate mass of each band is indicated (0.52 µg/load).
Recommended load is 5 µl/well. Contains Orange G and Xylene Cyanol as tracking dye.
Stable for 6 months at 25 °C and for 12 months at 4 °C. For long term storage store at -20 °C.



Cat.No.	Size
39317.01	500 µl

SERVA Fluo-610 Standard I

HS 38220000
Storage temperature -15 °C to -25 °C

SERVA Fluo-610 Standard I is a ready-to-use fluorescent labelled protein marker for direct detection in a SDS-PAGE gel or on a membrane in Western Blotting. The marker proteins in the range from 14.4 kDa to 9.4 kDa are labelled with the highly sensitive and stable fluorescent dye Lightning Red. SERVA Lightning Red (cat. no. 43402) is a fluorescent dye for rapid labelling in minutes of proteins prior to SDS PAGE and/or Western Blotting, making any staining and washing steps after electrophoresis unnecessary.
The protein standard is lyophilized for long stability and easy to resuspend. .

Cat.No.	Size
39261.01	5x 50 µl

SERVA IEF Gel 3-9 for PhastSystem™

HS 38220000
Storage temperature -15 °C to -25 °C

Film-supported, ready-to-use polyacrylamide mini gel for IEF (pH gradient 3 - 9) on PhastSystem™.
PhastSystem™ = trademark from Cytiva/ former GE Healthcare

Cat.No.	Size
43366.01	10 gels

SERVA HiSens Stain G

HS 38220000
Storage temperature +2 °C to +8 °C

SERVA HiSens Stain G is a highly sensitive, non-carcinogenic, non-toxic fluorescent nucleic acid stain, specially designed for in-gel staining of agarose gels. It stains double-stranded or single-stranded DNA and RNA with a sensitivity several times greater than EtBr. The detection limit in in-gel staining is around 0.1 ng of a 4-kb dsDNA band.

The stain can be detected with standard UV as well as with blue light tables. When bound to nucleic acids, the stain has fluorescent excitation maxima of 250 and 480 nm, and an emission maximum of 509 nm.

The stain is provided as a ready-to-use 10 000x stock solution.

Cat.No.	Size
39805.01	500 µl

SERVA HPE™ Coomassie® Staining Kit

HS 38220000

Colloidal staining kit for highly sensitive staining of 1D and 2D gels after electrophoresis. The kit contains two components to be mixed together prior to use. Kit contains enough reagents to stain 4 large 2D HPE™ gels. Reagents are MS compatible for downstream mass spectrometry analysis.

Coomassie = registered trademark of ICI Ltd.

Cat.No.	Size
43396.01	1 kit

SERVA HPE™ IPG Overlay

HS 27101985

Overlay oil to cover IPG strips during high voltage isoelectric focusing of proteins with no influence on separation behaviour of the IPG strip. Usage of the SERVA IPG Overlay is an important factor for sharp protein spots in high resolution 2D gel electrophoresis. For easy application of the oil a separate dropping bottle is included.

Cat.No.	Size
43397.01	1 L

SERVA HPE™ IPG Strip Buffer

HS 38220000
Storage temperature +2 °C to +8 °C

1 ml 40 % (w/v) SERVALYT™ mixture (pH 3-10) for IPG strip rehydration and sample preparation for 2D electrophoresis.
SERVA IPG strip buffer works for all IPG strips pH gradients. Due to the low molecular weights of the SERVALYT™ buffer molecules there is no background staining in the 2D gels.

Cat.No.	Size
43368.01	1 ml

SERVA HPE™ Lightning Red

(Fluorescence labelling)
HS 38220000
Storage temperature +2 °C to +8 °C

SERVA HPE™ Lightning Red is a fluorescent dye for rapid labelling of proteins prior to 2D PAGE, making any staining and washing steps after electrophoresis unnecessary. In addition the dye is fully compatible with mass spectrometry and other downstream methods like Western Blotting.
The labelling procedure is simple and quick:
Typically use 80 pmol SERVA HPE™ Lightning Red for labelling of 1 µg protein. Incubate at 0 °C for 15 min. The labelled protein solution is directly applied to an IPG strip via cup- or rehydration loading.
After the 2D run, detection of labelled proteins is performed by fluorescent imager (camera or scanner) at an excitation wavelength of about 530 nm and emission filter of 610 nm with a narrow band width of 30 nm.
SERVA HPE™ Lightning Red is compatible with all additives typically used for sample solubilization and protein extraction, including carrier ampholytes and reductants.
Alkalescent conditions are sufficient, it is not required to titrate the pH to a defined value.

- Direct detection
- No staining and washing steps after the run
- Very high sensitivity, < 100 pg protein / spot
- Wide dynamic and linear range of > 10^4
- No over-staining effects
- Fully MS and Western Blotting compatible

The kit contains 250 µg SERVA HPE™ Lightning Red dye and DMSO.

Cat.No.	Size
43400.01	1 kit

SERVA HPE™ Silver Staining Kit

DANGER
H301-H311-H331-H334-H351-H410 ♦
HS 38220000

Silver staining kit for highly sensitive silver staining of 2D gels. Kit contains reagents to stain 4 large 2D HPE™ gels. Reagents are MS compatible for downstream mass spectrometry analysis.

Cat.No.	Size
43395.01	1 kit

SERVA ICPL™ Kit

WARNING
H290-H302-H315-H317-H318-H319-H334-H335-H351i ♦
HS 38220000
Storage temperature -15 °C to -25 °C

The powerful ICPL™ technology for comparative quantification of proteins with two labels:
1 - ($^{12}C_6{}^1H_4$)-Nicotinoyloxy-succinimide
1 - ($^{13}C_6{}^2H_4$)-Nicotinoyloxy-succinimide
Applying the ICPL™ method the simultaneous quantitative analysis of two independent proteome samples can be performed by stable protein labelling side by side.
The kit contains ^{12}C- and ^{13}C-Nic-reagent, stop solution 1 + 2, reduction solution, alkylation reagent, lysis buffer and standard protein mix A + B.
The kit contains reagents for 2 x 6 reactions. A detailed instruction manual is included.

ICPL = trademark of TopLab GmbH, Martinsried, Germany

References:
1. Schmidt, A., Kellermann, J. and Lottspeich, F. (2005), Proteomics ***5***, 4-15
2. Brunner, A., Keidel, E., Dosch, D., Kellermann, J. and Lottspeich, F. (2010) Proteomics ***10***, 315-326

Cat.No.	Size
39230.01	1 kit

SERVA ICPL™ Triplex Kit

WARNING
H302-H315-H317-H319-H335-H351-H373 ♦ HS 38220000
Storage temperature -15 °C to -25 °C

The powerful ICPL™ technology for comparative quantification of proteins with three labels:
1 - ($^{12}C_6{}^1H_4$)-Nicotinoyloxy-succinimide
1 - ($^{12}C_6{}^2D_4$)-Nicotinoyloxy-succinimide
1 - ($^{13}C_6{}^2H_4$)-Nicotinoyloxy-succinimide
Applying the ICPL™ triplex method the simultaneous quantitative analysis of three independent proteome samples can be performed by stable protein labelling side by side.
The kit contains ^{12}C-, ^{2}D- and ^{13}C- Nic-reagent, stop solution 1 + 2, reduction solution, alkylation reagent, lysis buffer and standard protein mix A, B and C.
The kit contains reagents for 3 x 6 reactions. A detailed instruction manual is included.

ICPL = trademark of TopLab GmbH, Martinsried, Germany

References:
1. Schmidt, A., Kellermann, J. and Lottspeich, F. (2005), Proteomics ***5***, 4-15
2. Brunner, A., Keidel, E., Dosch, D., Kellermann, J. and Lottspeich, F. (2010) Proteomics ***10***, 315-326

Cat.No.	Size
39231.01	1 kit

SERVA ICPL™ Quadruplex Kit

WARNING
H302-H315-H317-H319-H335-H351-H373 ♦ HS 38220000
Storage temperature -15 °C to -25 °C

The powerful ICPL™ technology for comparative quantification of proteins with four labels:
1 - ($^{12}C_6{}^1H_4$)-Nicotinoyloxy-succinimide
1 - ($^{12}C_6{}^2D_4$)-Nicotinoyloxy-succinimide
1 - ($^{13}C_6{}^2H_4$)-Nicotinoyloxy-succinimide
1 - ($^{13}C_6{}^2D_4$)-Nicotinoyloxy-succinimide.

Applying the ICPL™ quadruplex method the simultaneous quantitative analysis of four independent proteome samples can be performed by stable protein labelling side by side. The kit contains ^{12}C-, ^{2}D-, ^{13}C and $^{13}C^2D$- Nic-reagent, stop solution 1 + 2, reduction solution, alkylation reagent, lysis buffer and standard protein mix A, B, C and X. The kit contains reagents for 4 x 6 reactions. A detailed instruction manual is included.

ICPL = trademark of TopLab GmbH, Martinsried, Germany

References:
1. Schmidt, A., Kellermann, J. and Lottspeich, F. (2005), Proteomics ***5***, 4-15
2. Brunner, A., Keidel, E., Dosch, D., Kellermann, J. and Lottspeich, F. (2010) Proteomics ***10***, 315-326

Cat.No.	Size
39232.01	1 kit

SERVA ICPL™ Quadruplex Plus Kit

WARNING
H302-H315-H317-H319-H335-H351 ♦ HS 38220000
Storage temperature -15 °C to -25 °C ✻

Applying the ICPL™ quadruplex method the simultaneous quantitative analysis of four independent proteome samples can be performed by stable protein labelling side by side.
Included are MS approved endoproteinases Trypsin NB and Glu-C for achieving the highest sequence coverage. All four labels can be freely combined with each other. By omitting one label you can as well compare only two or three samples. The enclosed ICPL™-Standard PLUS allows calibration of the analysis system.
The kit contains ^{12}C-, ^{2}D-, ^{13}C and $^{13}C^2D$- Nic-reagent, stop solution 1 + 2, reduction solution, alkylation reagent, lysis buffer, standard protein mix A, B, C and X, ICPL™-Standard PLUS, Trypsin modified, and Endoproteinase Glu-C . The kit contains reagents for 4 x 6 reactions. A detailed instruction manual is included.

ICPL = trademark of TopLab GmbH, Martinsried, Germany

References:
1. Schmidt, A., Kellermann, J. and Lottspeich, F. (2005), Proteomics ***5***, 4-15
2. Brunner, A., Keidel, E., Dosch, D., Kellermann, J. and Lottspeich, F. (2010) Proteomics ***10***, 315-326

Cat.No.	Size
39233.01	1 kit

SERVA IPG *Blue*Strip 3-10 / 7 cm

(IPG Strips)
HS 38220000
Storage temperature -15 °C to -25 °C ✻✻

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43001.01	12 strips

SERVA IPG *Blue*Strip 3-10 / 11 cm

HS 38220000
Storage temperature -15 °C to -25 °C ✻✻

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43031.01	12 strips

SERVA IPG *Blue*Strip 3-10 / 17 cm

HS 38220000
Storage temperature -15 °C to -25 °C ✻✻

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43041.01	12 strips

SERVA IPG *Blue*Strip 3-10 / 18 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43011.01	12 strips

SERVA IPG *Blue*Strip 3-10 / 24 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43021.01	12 strips

SERVA IPG *Blue*Strip 3-10 NL / 7 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43002.01	12 strips

SERVA IPG *Blue*Strip 3-10 NL / 11 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43032.01	12 strips

SERVA IPG *Blue*Strip 3-10 NL / 17 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43042.01	12 strips

SERVA IPG *Blue*Strip 3-10 NL / 18 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43012.01	12 strips

SERVA IPG *Blue*Strip 3-10 NL / 24 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43022.01	12 strips

SERVA IPG *Blue*Strip 4-7 / 7 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43003.01	12 strips

SERVA IPG *Blue*Strip 4-7 / 11 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43033.01	12 strips

SERVA IPG *Blue*Strip 4-7 / 17 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43043.01	12 strips

SERVA IPG *Blue*Strip 4-7 / 18 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43013.01	12 strips

SERVA IPG *Blue*Strip 4-7 / 24 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43023.01	12 strips

SERVA IPG *Blue*Strip 5-8 / 7 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43006.01	12 strips

SERVA IPG *Blue*Strip 5-8 / 11 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43036.01	12 strips

SERVA IPG *Blue*Strip 5-8 / 17 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43046.01	12 strips

SERVA IPG *Blue*Strip 5-8 / 18 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43016.01	12 strips

SERVA IPG *Blue*Strip 5-8 / 24 cm

HS 38220000
Storage temperature -15 °C to -25 °C ❄❄

SERVA IPG *Blue*Strips are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. The strips have to be rehydrated before use. The homogeneous polyacrylamide gel matrix is covalently bound to GEL-FIX™ to stabilize the gel. Additionally, a non-binding cover film (GEL-FIX™ for Covers) protects the gel from damage and contamination. Each gel strip has its own lot number printed on and, therefore, is suitable for documentation according to GMP/GLP.
Each package contains 12 gel strips (all derived from the same production lot). Other pH gradients and gel strip lengths are available upon request.

Cat.No.	Size
43026.01	12 strips

SERVA Lightning Sci2 lyophilized

HS 38220000
Storage temperature -15 °C to -25 °C

SERVA Lightning Sci2 is a Cyanine2 NHS ester for minimal labelling and maximum detection of proteins prior to protein detection in 2D Fluorescence Difference Gel Electrophoresis (DIGE). Minimal labelling with SERVA Lightning Sci2, Sci3 and Sci5 allows for the precise comparison of protein expression in two or three samples. The dyes are charge- and size-matched enabling high efficient detection and high resolution of minor proteins on 2D gel electrophoresis. SERVA Lightning Sci2 is compatible with all imagers suitable for detection of Cy2®. Gels labelled with SERVA Lightning SciDyes are ready for subsequent mass spectrometry analysis.
Each vial contains specified amount of NHS ester with a tolerance variation of 10 %.

Special properties:

Fluorescence colour	Green
Excitation maximum	490 nm
Emission maximum	510 nm

Cy2® = trademark of GE Healthcare Company

Cat.No.	Size
43404.01	5 NMOL
43404.02	10 NMOL
43404.03	25 NMOL

SERVA Lightning Sci3 lyophilized

HS 38220000
Storage temperature -15 °C to -25 °C

SERVA Lightning Sci3 is a Cyanine3 NHS ester for minimal labelling and maximum detection of proteins prior to protein detection in 2D Fluorescence Difference Gel Electrophoresis (DIGE). Minimal labelling with SERVA Lightning Sci2, Sci3 and Sci5 allows for the precise comparison of protein expression in two or three samples. The dyes are charge- and size-matched enabling high efficient detection and high resolution of minor proteins on 2D gel electrophoresis. SERVA Lightning Sci3 is compatible with all imagers suitable for detection of Cy3®. Gels labelled with SERVA Lightning SciDyes are ready for subsequent mass spectrometry analysis.
Each vial contains specified amount of NHS ester with a tolerance variation of 10 %.

Spectral properties:

Fluorescence colour	Yellow
Excitation maximum	555 nm
Emission maximum	570 nm

Cy3® = trademark of GE Healthcare Company

Cat.No.	Size
43405.01	5 NMOL
43405.02	10 NMOL
43405.03	25 NMOL

SERVA Lightning Sci5 lyophilized

HS 38220000
Storage temperature -15 °C to -25 °C

SERVA Lightning Sci5 is a Cyanine5 NHS ester for minimal labelling and maximum detection of proteins prior to protein detection in 2D Fluorescence Difference Gel Electrophoresis (DIGE). Minimal labelling with SERVA Lightning Sci2, Sci3 and Sci5 allows for the precise comparison of protein expression in two or three samples. The dyes are charge- and size-matched enabling high efficient detection and high resolution of minor proteins on 2D gel electrophoresis. SERVA Lightning Sci5 is compatible with all imagers suitable for detection of Cy5®. Gels labelled with SERVA Lightning SciDyes are ready for subsequent mass spectrometry analysis.
Each vial contains specified amount of NHS ester with a tolerance variation of 10 %.

Spectral properties:

Fluorescence colour	Red
Excitation maximum	645 nm
Emission maximum	660 nm

*Cy5® = trademark of GE Healthcare Company*y

Cat.No.	Size
43406.01	5 NMOL
43406.02	10 NMOL
43406.03	25 NMOL

SERVA Lightning SciDye Set

HS 38220000
Storage temperature -15 °C to -25 °C

SERVA Lightning SciDyes are designed for minimal labelling and maximum detection of proteins prior to protein detection in 2D Fluorescence Difference Gel Electrophoresis (DIGE). They allow for the precise comparison of protein expression in two or three samples. SERVA Lightning SciDyes are compatible with all imagers suitable for detection of Cy2®, Cy3® and Cy5®. Gels labelled with SERVA Lightning SciDyes are ready for subsequent mass spectrometry analysis.
SERVA Lightning SciDye Set consists of one vial each of SERVA Lightning Sci2 (cat. no. 43404) SERVA Lightning Sci3 (cat. no. 43405) and SERVA Lightning Sci5 (cat. no. 43406).
Each vial contains specified amount of NHS ester with a tolerance variation of 10 %.

Cy2®, Cy3® and Cy®5 = trademarks of GE Healthcare Company

Cat.No.	Size
43407.01	5 NMOL
43407.02	10 NMOL
43407.03	25 NMOL

SERVA Mag Rack

HS 90279050

Rack for 12 tubes from 0.5 up to 2.0 ml.
To separate magnetic beads from liquid simply raise the plate equipped with 12 single magnets, the position of the plate will be secured by one extra magnet at each site. The magnetic particles will be attached to one site of the tube, allowing the researcher to pipette out the solution very easily, leaving the magnetic particles in the tube.

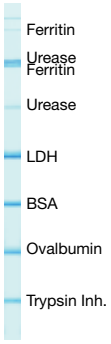
Cat.No.	Size
MR-12	1 piece

SERVA Native Marker, Liquid Mix for BN/CN

HS 38220000
Storage temperature -15 °C to -25 °C

Molecular Weight Marker for Blue and Clear Native PAGE. Ready-to-use. Contains native proteins ranging from 720 kDa to 21 kDa.

Ferritin horse	M_r 450 000/720 000
Urease jack bean	M_r 272 000/545 000
Lactate dehydrogenase porcine	M_r 146 000
Albumin bovine	M_r 67 000
Albumin egg	M_r 45 000
Trypsin inhibitor soybean	M_r 21 000



Cat.No.	Size
39219.01	5 x 50 µl

SERVA Ni-IDA HD Agarose Resin

HS 38220000

High density nickel-iminodiacetic acid (IDA) crosslinked agarose resin for low pressure affinity chromatography. The high amount of available nickel chelate groups allows for high binding capacity. Nickel chelates recognize two exposed histidine tags with high specificity and very high affinity. Therefore a nickel charged matrix is recommended for most standard purifications. Suitable for batch or column purifications. Binding/loading capacity: 20 - 40 µmol Me^{2+}/ml gel.

Cat.No.	Size
42141.01	25 ml
42141.02	100 ml

SERVA Ni-NTA Agarose Resin

(NTA-Agarose Resins)
HS 38220000
Storage temperature +2 °C to +8 °C

High capacity nickel-nitrilotriacetic acid (NTA) crosslinked agarose resin for low pressure affinity chromatography. The four metal-binding sites on the chelate enable high-protein binding and minimal metal leaching. Ideal for purification under denaturing conditions. Handling is easy and identical to standard protocols of other manufacturers, therefore there is no need to change established protocols. Suitable for batch and column purification. Binding capacity: > 50 mg/ml gel.

Cat.No.	Size
42139.01	25 ml
42139.02	100 ml

SERVA Ni-NTA Magnetic Beads

HS 38220000
Storage temperature +2 °C to +8 °C

High capacity nickel-nitrilotriacetic acid (NTA) magnetic agarose beads (5 %) for rapid and easy small scale purification of His-tagged proteins under native or denaturing conditions.
Binding capacity: > 75 mg His-tagged protein/ml gel.

Cat.No.	Size
42179.01	2 ml
42179.02	10 ml

SERVA PRiME Lightning Red

HS 38220000
Storage temperature +2 °C to +8 °C

SERVA Lightning Red is a fluorescent dye for rapid labelling of proteins prior to SDS PAGE and/or Western Blotting, making any staining and washing steps after electrophoresis unnecessary. Normalization in Western Blots by using the total protein signal on the membrane as loading control can be easily done with the pre-labelled samples. In addition, the dye is fully compatible with mass spectrometry and other downstream methods.
The labelling procedure is simple and quick: 2 - 5 min for qualitative and 30 min for quantitative analysis.
For separation of the labelled proteins a wide range of gel formats including precast gels in plastic cassettes like SERVA*Gel* PRiME Vertical Mini Gels and film-backed gels can be used.
The labelling works with complex and purified samples in a protein concentration range between 1 µg/ml up to 20 mg/ml - no need for protein concentration measurement or purification and concentration steps before or after labelling.

After the run, detection of labelled proteins is performed by fluorescent imager (camera or scanner) at an excitation wavelength of about 530 nm and emission filter of 610 nm with a narrow band width of 30 nm.
Depending on the used protocol sufficient for 250 - 1250 lanes - no matter what size of gel (mini, wide or large format) you use.

- Simple and fast pre-labelling of proteins for SDS PAGE and Western Blotting
- No need for protein concentration measurement or purification and concentration steps before or after labelling
- No staining and washing steps after the run
- Broad protein concentration range
- Very high sensitivity, very low background
- Wide dynamic and linear range
- Compatible with all common gel electrophoresis buffer systems and mass spectrometry

Cat.No.	Size
43402.01	1 kit

SERVA ProteinStain Fluo-R powder

$C_{72}H_{42}N_6O_{18}S_6 \cdot Na_4Ru$ ♦ M_r 1664.5

WGK 2L ♦ HS 28439090

SERVA ProteinStain Fluo-R is a highly sensitive fluorescent dye for detection of proteins in e. g. SDS PAGE, native PAGE or 2D gels. The dye does not interfere with immunodetection. Therefore you can stain your gel with SERVA ProteinStain Fluo-R and then proceed with Western Blotting receiving a copy of your gel on the membrane.
The dye can as well be used for pre-staining, just use it in the loading buffer instead of bromophenol blue or other dyes.
It is as sensitive as silver staining, but has superior staining properties, which makes it the first choice for proteomic research. The dye has a good linearity, high contrast and is compatible with MS/MS analysis. The staining can be as well combined with silver staining and DIGE.
The dye is easily soluble in water. Just dissolve 5 mg in 3 L water to receive a 1 µM staining solution. Or prepare a 20 mM stock solution by dissolving 5 mg in 150 µl water. The dye is best excited with blue light of wave length 473/488 nm. Excitation with laser light of wave length 532 nm is as well possible, but less sensitive.

Cat.No.	Size
35090.01	5 mg

SERVA Proteome Markers

HS 38220000
Storage temperature -15 °C to -25 °C

5 vials of marker proteins, lyophilized, approx. 5 -10 applications per vial for 2D electrophoresis.

Glucose oxidase (*Aspergillus niger*)	M_r 77 000
Albumin (bovine)	M_r 67 000
Catalase	M_r 58 000
Lipase (from bacteria)	M_r 33 000
Glucose-1-dehydrogenase (from bacteria; M_r 113 000)	M_r 32 000 (subunits)
β-Lactoglobulin (bovine)	M_r 18 400
Myoglobin (horse)	M_r 17 800
Cytochrome C (horse)	M_r 11 700

Cat.No.	Size
39220.01	1 kit

SERVA Purple Protein Quantification Assay

HS 38220000
Storage temperature -15 °C to -25 °C

The assay bases on the eco-friendly fluorescent dye SERVA Purple. The dye reversibly binds to lysine, arginine, and histidine residues in proteins and peptides to yield an intensely red-fluorescent product (λ_{Ex} 518 nm, λ_{Em} 610 nm). The assay exhibits very low protein binding variation, leading to more accurate protein concentration values.

- Fast and simple - no heating and reduction steps, completed in 1 h
- Compatible with many detergents and reducing agents
- Accurate staining of glyco-, phospho-, hydrophobic proteins and peptides
- Single tube and 96- or 384-well-format for high-throughput
- Detection limit of 100 ng/ml for peptides and 40 ng/ml for proteins
- Linear quantification over 3 orders of magnitude
- Compatible with downstream applications like 1D- and 2D-PAGE, MS, DIGE-labelling, HPLC

Cat.No.	Size
39235.01	10 ml

SERVA Purple, 250x concentrate

DANGER
H225-H302-H312-H319-H332 ♦ GGVSE/ADR 3 II UN1648 ♦ IATA 3 II UN1648 ♦ WGK 2L ♦ HS 38220000
Storage temperature -15 °C to -25 °C

The fluorescent dye Deep Purple (marketed by GE) and LavaPurple (marketed by Gelcompany and SERVA) has been used by many laboratories for staining proteins in gels and on blotting membranes. The dye is based on a small naturally occurring fluorescent compound “Epicocconone” that reversibly binds to lysine, arginine, and histidine residues in proteins and peptides to yield an intensely red-fluorescent product. SERVA Purple is a further development of this compound “Epicocconone”. It has improved properties due to a novel production and purification technology by unchanged cost-effectiveness compared to other fluorescence dyes or even silver staining.

- Environmentally friendly, easy to use
- Sensitivity to as low as 50 pg/band
- Linear quantification over 4 orders of magnitude
- Compatible with MS, DIGE-labelling
- After imaging gel can be further processed by Western Blotting

References:

1. Moritz C.P. et al. (2014) Proteomics, Vol. ***14***, Issue 2-3, p. 162–8, Epicocconone staining: a powerful loading control for Western blots.

Cat.No.	Size
43386.03	5 ml
43386.01	25 ml

SERVA Purple HiSens, 250x concentrate

DANGER
H225-H302-H312-H319-H332 ♦ GGVSE/ADR 3 II UN1648 ♦ IATA 3 II UN1648 ♦ WGK 2L ♦ HS 38220000
Storage temperature -15 °C to -25 °C

Total protein stain for non-denaturing and denaturing 1D and 2D gel electrophoresis and blotting. The dye reversibly binds to lysine, arginine, and histidine residues in proteins and peptides to yield an intensely red-fluorescent product (λEx 518 nm, λEm 610 nm).
SERVA Purple HiSens shows highest sensitivity compared to most other protein stains. Even difficult to stain proteins as glycoproteins and lipoproteins can be accurately detected.
Although this modified version of SERVA Purple has a significantly increased sensitivity, its cost-effectiveness as against other fluorescent dyes or even silver staining is unchanged.

- Environmentally friendly, easy to use
- Sensitivity to as low as <20 pg/band
- Linear quantification over 4 orders of magnitude
- Compatible with MS, DIGE-labelling
- After imaging gel can be further processed by Western Blotting

References:

1. Moritz C.P. et al. (2014) Proteomics, Vol. ***14***, Issue 2-3, p. 162–8, Epicocconone staining: a powerful loading control for Western blots.

Cat.No.	Size
43408.01	5 ml
43408.02	25 ml

SERVA SDS Gel 8-25 % Kit for PhastSystem™

HS 38220000

Kit for SDS PAGE on PhastSystem™

Contains:
10 film-supported, ready-to-use polyacrylamide mini gels (size 50 mm x 42 mm x 0.43 mm)
20 ml Anode Buffer
20 ml Cathode Buffer
20 Electrode wicks

PhastSystem™ = trademark from Cytiva/ former GE Healthcare

Cat.No.	Size
43503.01	1 kit

SERVA Silver Staining Kit Native PAGE for 25 gels

DANGER
H301-H311-H314-H317-H351-H411 ♦ HS 38220000

Silver staining kit for easy and rapid staining of proteins after native PAGE, e.g. of IEF gels:

- Contains everything needed for fixation and staining
- Fast staining procedure (45 - 60 min.)
- Very low background
- High sensitivity
- With detailed staining manual
- For 25 applications

Cat.No.	Size
35077.01	1 kit

SERVA Silver Staining Kit SDS PAGE for 25 gels

DANGER
H226-H301-H311-H314-H317-H351-H411 ♦ HS 38220000

Silver staining kit for easy and rapid staining of proteins after SDS PAGE:

- Contains everything needed for fixation and staining
- Fast staining procedure (45 - 60 min.)
- Very low background
- High sensitivity
- With detailed staining manual
- For 25 applications

Cat.No.	Size
35076.01	1 kit

SERVA Streptavidin Agarose Resin

HS 38220000
Storage temperature +2 °C to +8 °C

High specific activity streptavidin immobilized on 6 % highly crosslinked agarose for easy isolation of biotinylated biomolecules and cell sorting. The superior coupling chemistry used to prepare this resin leads to a higher binding capacity with lower non-specific binding and less leaching. Handling is easy and identical to standard protocols of other manufacturers, therefore there is no need to change established protocols. Suitable for batch and column purification.
Binding capacity: > 120 nmol biotin/ml gel

Cat.No.	Size
42178.01	5 ml
42178.02	10 ml

SERVA Triple Color Protein Standard I

HS 38220000
Storage temperature -15 °C to -25 °C

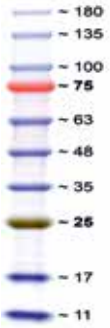
SERVA Triple Color Protein Standard I is a ready-to-use protein marker of 9 recombinant pre-stained proteins of a wide molecular weight range from 15 to 180 kDa (separation on a SDS Tris-Glycine gel). The protein ladder is designed for monitoring protein separation during SDS PAGE, verification of Western Blotting transfer efficiency and for approximate sizing of proteins. Proteins are covalently coupled with a blue chromophore except for four reference bands, two green bands at 15 kDa and 60 kDa and two red bands at 30 kDa and 70 kDa (separation on a SDS Tris-glycine gel).

Cat.No.	Size
39251.01	500 µl

SERVA Triple Color Protein Standard II

HS 38220000
Storage temperature -15 °C to -25 °C

SERVA Triple Color Protein Standard II is a mixture of 10 pre-stained proteins of a molecular weight range from 11 to 180 kDa (separation on a SDS Tris-glycine gel). Proteins are covalently coupled with a blue chromophore except for one green band at 25 kDa and one red band at 75 kDa (separation on a SDS Tris-glycine gel).
It is provided in a ready-to-use formula and no heating, further dilution or adding of reducing reagents is necessary before use. SERVA Triple Color Protein Standard II is designed for monitoring protein separation during SDS PAGE, verification of Western Blotting transfer efficiency and for approximate sizing of proteins.
The marker is stable for up to two weeks at 25 °C and for up to 3 months at 4 °C. Recommended loading volume for a mini gel is 3 – 5 µl/lane.



Cat.No.	Size
39257.01	500 µl

SERVA Triple Color Protein Standard III

HS 38220000
Storage temperature -15 °C to -25 °C

SERVA Triple Color Protein Standard III is a mixture of 13 pre-stained proteins of a molecular weight range from 5 to 245 kDa (separation on a SDS Tris-glycine gel). Proteins are covalently coupled with a blue chromophore except for one green band at 25 kDa and one red band at 75 kDa (separation on a SDS Tris-glycine gel).
It is provided in a ready-to-use formula and no heating, further dilution or adding of reducing reagents is necessary before use. SERVA Triple Color Protein Standard III is designed for monitoring protein separation during SDS PAGE, verification of Western Blotting transfer efficiency and for approximate sizing of proteins. The marker is stable for up to two weeks at 25 °C and for up to 3 months at 4 °C. Recommended loading volume for a mini gel is 3 – 5 µl/lane.

Cat.No.	Size
39258.01	500 µl

SERVA Tris-Glycine Native Electrophoresis Buffer (10x)

HS 38220000

Running buffer for native PAGE. Supplied as 10 x concentrate.
Contains 250 mM Tris, 1.92 M glycine.

Cat.No.	Size
42530.01	1 L

SERVA Tris-Glycine Native Sample Buffer (2x)

HS 38220000
Storage temperature +2 °C to +8 °C

Sample buffer for native PAGE. Supplied as 2 x concentrate. Contains 126 mM Tris/HCl (pH 6.8), 20 % glycerol and 0.02 % bromophenol blue.

Cat.No.	Size
42528.01	20 ml

SERVA Tris-Glycine/LDS Sample Buffer (4x)

HS 38220000
Storage temperature +2 °C to +8 °C

Modified sample buffer for SDS PAGE, delivered as 4x concentrate.
Lithium dodecyl sulfate (LDS) replaces the commonly used sodium dodecyl sulfate (SDS) in the triethanolamine buffered sample buffer. LDS prevents degradation of proteins during sample preparation and heating and stabilizes the pH of the sample during gel run. It does not crystallize at lower temperatures due to significantly better solubility than SDS. Hence, protein stability as well as band resolution is significantly enhanced by cooled gel runs.
For reducing conditions the sample buffer may be supplemented with 10 mM DTT or 5 % β-mercaptoethanol (end concentration 1x sample buffer).
Contains:
Triethanolamine buffered, 40 % glycerol, 4 % Ficoll® 400, 4 % LDS, 0.025 % phenol red and 0.025 % bromophenol.

Cat.No.	Size
42525.01	10 ml

SERVA Tris-Glycine/SDS Electrophoresis Buffer (10x)

HS 38220000

Running buffer for SDS PAGE. Supplied as 10 x concentrate.
Contains 250 mM Tris, 1.92 M glycine, 1 % SDS.

Cat.No.	Size
42529.01	1 L

SERVA Tris-Glycine/SDS Sample Buffer (2x)

(Tris-Glycine/SDS Sample Buffer)
HS 38220000
Storage temperature +2 °C to +8 °C

Sample buffer for SDS PAGE. Supplied as 2 x concentrate.
Contains 126 mM Tris/HCl (pH 6.8), 20 % glycerol, 4 % SDS and 0.02 % bromophenol blue.

Cat.No.	Size
42527.01	20 ml

SERVA Tris-SDS Sample Buffer pH 8.6 (10X)

WARNING
H315 - H319 ♦ HS 38220000
HS 38220000
Storage temperature +2 °C to +8 °C

Non-reducing sample buffer for SDS PAGE, delivered as 10x concentrate. Ideal for diluted samples. Due to the basic pH the sample buffer can be used for labelling of proteins with e.g. Lightning Red or DIGE dyes prior to electrophoresis.
For reducing conditions the sample buffer may be supplemented with 10 mM DTT or 5 % β-mercaptoethanol (end concentration 1x sample buffer).
Contains: 290 mM Tris, 210 mM Tris-HCl, 25 % glycerol, 10 % SDS and 0.1 % bromophenol

Cat.No.	Size
42546.01	10 ml

SERVA Tris-Tricine/SDS Electrophoresis Buffer (10x)

HS 38220000

Running buffer for SDS PAGE. Supplied as 10 x concentrate.
Contains 1 M Tris, 1 M Tricine and 1 % SDS.

Cat.No.	Size
42552.01	1 L

SERVA Tris-Tricine/SDS Electrophoresis Buffer (20x)

HS 38220000

Running buffer for SDS PAGE. Optimized formulation to improve sharpness of bands, especially when used together with SERVA*Gel* Neutral pH 7.4 (cat. no. 43220 and 43221) precast gels. Supplied as 20 x concentrate. Contains 1.2 M Tris (pH 8.5), 0.8 M Tricine and 2 % SDS.

Cat.No.	Size
42560.01	1 L

SERVA Tris-Tricine/SDS Sample Buffer (2x)

HS 38220000
Storage temperature +2 °C to +8 °C

Sample buffer for SDS PAGE. Supplied as 2 x concentrate. Contains 900 mM Tris/HCl (pH 8.45), 24 % glycerol , 4 % SDS, 0.015 % SERVA Blue G and 0.005 % phenol red.

Cat.No.	Size
42551.01	20 ml

SERVA Unstained Protein Standard 6.5 - 97 kDa

HS 38220000
Storage temperature -15 °C to -25 °C

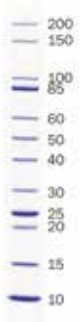
Ready-to-use protein marker that contains 7 native proteins ranging from 6.5 to 97.4 kDa.
After gently warming the protein standard solution to room temperature, apply 5 µl per lane when staining with SERVA Blue G, SERVA Blue R or Coomassie®. For silver staining, e.g. using SERVA's Silver Staining Kit (cat.no. 35076), dilute 1:5 in 1x Laemmli Buffer and apply 5 µl.

Phosphorylase B	Mr 97 400
Albumin bovine (BSA)	Mr 67 000
Ovalbumin	Mr 45 000
Carbonic anhydrase	Mr 29 000
Trypsin inhibitor (soybean)	Mr 21 000
Cytochrom C	Mr 12 500
Trypsin inhibitor (bovine)	Mr 6 500

Cat.No.	Size
39214.01	500 µl

SERVA Unstained Protein Standard IV

HS 38220000
Storage temperature -15 °C to -25 °C



SERVA Unstained Protein Standard IV is a mixture of 12 unstained recombinant proteins of a molecular weight range from 10 to 200 kDa (separation on a SDS Tris-glycine gel). The 25 kDa and 85 kDa bands have double intensity for easy allocation of protein molecular weights. It is provided in a ready-to-use formula and no heating, further dilution or adding of reducing reagents is necessary before use. SERVA Unstained Protein Standard IV is designed for molecular weight determination in SDS PAGE and verification of Western Blotting transfer efficiency.

The marker is stable for up to two weeks at 25 °C and for up to 3 months at 4 °C. Recommended loading volume for a mini gel is 5 µl/lane.

Cat.No.	Size
39250.01	500 µl

SERVA UV-Table CI 254 nm, 22 x 28 cm

HS 90278017

UV table with wavelength of 254 nm and filter size of 22 x 28 cm. Suitable for digital image analysis. Stainless steel filter frame and robust steel housing. Homogeneous UV light for uniform illumination of samples and high UV intensity due to the use of reflectors made of refined aluminium.

Cat.No.	Size
UV-CI	1 piece

SERVA UV-Table C II 312 nm, 22 x 28 cm, w. Lid for DIAS-II

HS 90278017

UV table with wavelength of 312 nm and filter size of 22 x 28 cm. Suitable for digital image analysis, preparation of nucleic acids and other daily routine work. Stainless steel filter frame and robust steel housing. Homogeneous UV light for uniform illumination of samples and high UV intensity due to the use of reflectors made of refined aluminium. Applicable as a white or blue light table in combination with the UV/WL or UV/BL converter screen (cat. nos. UV-WLC, UV-BLC). The removable adjustable UV protection shield is adapted to the special needs when used in combination with the SERVA Digital Imaging and Analysis System III (DIAS-III).

Cat.No.	Size
UV-CII	1 piece

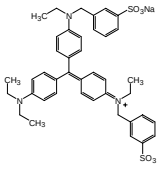
SERVA UV-Table CIIL

HS 90278017

UV table with wavelength of 312 nm and filter size of 22 x 28 cm. Suitable for digital image analysis, preparation of nucleic acids and other daily routine work. Stainless steel filter frame and robust steel housing. Homogeneous UV light for uniform illumination of samples and high UV intensity due to the use of reflectors made of refined aluminium. The lid serves as removable adjustable UV protection shield. Applicable as a white or blue light table in combination with the UV/WL or UV/BL converter screen (cat. nos. UV-WLC, UV-BLC).

Cat.No.	Size
UV-CIIL	1 piece

SERVA Violet 17



(Acid Violet 17; COOMASSIE® Violet R-150)
C.I.42650 ♦ $C_{41}H_{44}N_3O_6S_2$·Na ♦ M_r 761.9 ♦
CAS [4129-84-4]

H411 ♦ #i#GGVSE/ADR 9 III UN3077 ♦
IATA 9 III UN3077 ♦ EINECS 223-942-6 ♦ WGK 3L ♦
HS 32041200

For staining of proteins in PAGE.

λ max. (0.001 % in water)	544 - 550 nm
A 1 cm/λ max./0.001 % in water	min. 0.8
Water (KF)	max. 10.0 %

COOMASSIE = TM of ICI Ltd.

Cat.No.	Size
35072.02	25 g
35072.03	100 g

SERVA Violet 17 Staining Kit

DANGER
H314-H411 ♦ GGVSE/ADR 8 III UN1805 ♦
IATA 8 III UN1805 ♦ HS 38220000

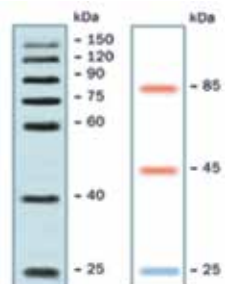
The SERVA Violet 17 Staining Kit is suited to stain all vertical and horizontal gels after isoelectric focusing (IEF). The kit is convenient, safe and easy to use and contains everything needed for fixation, staining and destaining. The colloidal stain SERVA Violet 17 gives you high sensitivity when staining IEF gels. No organic solvents are needed to apply SERVA Violet 17 staining. The SERVA Violet 17 Staining Kit contains 1 g SERVA Violet 17 and 500 ml stain solubilizer solution, ready-to-use solutions for fixation (2 x 500 ml) and destaining (500 ml) and a detailed protocol for the detection procedure. The kit contains enough stain and solutions for 5 to 10 applications (large/small gels).

Cat.No.	Size
35074.01	1 kit

SERVA VisiBlot Standard I

HS 38220000
Storage temperature -15 °C to -25 °C

VisiBlot Standard I is a mixture of 10 recombinant proteins of a molecular weight range from 25 kDa to 150 kDa. Protein bands of 25 kDa, 45 kDa and 85 kDa are prestained allowing monitoring of protein separation during SDS PAGE. The remaining five proteins contain several IgG binding sites. Hence marker proteins bind to primary or secondary antibodies used in Western Blotting facilitating easy marker visualization on the transfer membrane. Because the proteins have no chromophore attached, the marker enables accurate molecular weight estimation. Recommended loading volume for a mini gel is 5 µl/lane.



- Ready-to-use, no reconstitution, further dilution or heating required
- Prestained bands for monitoring electrophoresis and membrane transfer
- Visualization of marker proteins on Western Blots by horseradish peroxidase or alkaline phosphatase-based immune-detection methods
- Molecular weight determination of proteins detected on transfer membrane

Cat.No.	Size
39260.01	500 µl

SERVA White Light Table 22 x 28 cm

HS 90278017

White light table with filter size of 22 x 28 cm. Suitable for digital image analysis and other daily routine work. Stainless steel filter frame and robust steel housing.

Cat.No.	Size
WL-28	1 piece

SERVAColor BCIP/NBT Blot Solution

HS 38220000
Storage temperature +2 °C to +8 °C

Ready-to-use, non-toxic, highly sensitive substrate solution for detection of alkaline phosphatase (AP) in membrane assays. Forms dark purple precipitates at the sites of AP activity on membranes.

- Rapid precipitate formation due to high activity
- High contrast due to very low background
- Long term stability at room temperature
- No significant fading after reaction stop

Cat.No.	Size
15245.01	250 ml

SERVAColor TMB Blot Solution

HS 38220000
Storage temperature +2 °C to +8 °C

Ready-to-use, non-toxic, highly sensitive substrate solution for detection of horseradish peroxidase (HRP) in membrane assays. Forms dark blue precipitates at the sites of HRP activity on membranes.

- Rapid precipitate formation due to high activity
- High contrast due to very low background
- Long term stability at room temperature
- No significant fading after reaction stop

Cat.No.	Size
37071.02	250 ml

SERVA*Gel*™ TG PRiME™ 8 % precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 8 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 40 up to 250 kDa.

Cat.No.	Size
43261.01	10 gels

SERVA*Gel*™ TG PRiME™ 8 % precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 8 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 40 up to 250 kDa.

Cat.No.	Size
43260.01	10 gels

SERVA*Gel*™ TG PRiME™ 8 % precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 8 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 40 up to 250 kDa.

Cat.No.	Size
43284.01	10 gels

SERVA*Gel*™ TG PRiME™ 10 % precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 10 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 30 up to 200 kDa.

Cat.No.	Size
43264.01	10 gels

SERVA*Gel*™ TG PRiME™ 10 % precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 10 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 30 up to 200 kDa.

Cat.No.	Size
43263.01	10 gels

SERVA*Gel*™ TG PRiME™ 10 % precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 10 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 30 up to 200 kDa.

Cat.No.	Size
43285.01	10 gels

SERVA*Gel*™ TG PRiME™ 12 % precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 150 kDa.

Cat.No.	Size
43267.01	10 gels

SERVA*Gel*™ TG PRiME™ 12 % precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 150 kDa.

Cat.No.	Size
43266.01	10 gels

SERVA*Gel*™ TG PRiME™ 12 % precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 150 kDa.

Cat.No.	Size
43286.01	10 gels

SERVA*Gel*™ TG PRiME™ 12 % precast gel, 2D well

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system. The 2D gel has one very planar slot for optimum transfer of proteins in the second dimension. For the first dimension IPG strips of 7 cm length can be used. The separation distance is 7 cm.

Cat.No.	Size
43268.01	10 gels

SERVA*Gel*™ TG PRiME™ 14 % precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 14 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 10 up to 100 kDa.

Cat.No.	Size
43270.01	10 gels

SERVA*Gel*™ TG PRiME™ 14 % precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 14 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 10 up to 100 kDa.

Cat.No.	Size
43269.01	10 gels

SERVA*Gel*™ TG PRiME™ 14 % precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 14 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 250 V const.). It can be operated under native and denaturing conditions. The separation range is from 10 up to 100 kDa.

Cat.No.	Size
43287.01	10 gels

SERVA*Gel*™ TG PRiME™ 14 % precast gel, 2D well

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, the precast gel SERVA*Gel*™ TG PRiME™ 14 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system. The 2D gel has one very planar slot for optimum transfer of proteins in the second dimension. For the first dimension IPG strips of 7 cm length can be used. The separation distance is 7 cm.

Cat.No.	Size
43271.01	10 gels

SERVA*Gel*™ TG PRiME™ 4 - 12 % precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 4 - 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 30 up to 300 kDa.

Cat.No.	Size
43274.01	10 gels

SERVA*Gel*™ TG PRiME™ 4 - 12 % precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 4 - 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 30 up to 300 kDa.

Cat.No.	Size
43273.01	10 gels

SERVA*Gel*™ TG PRiME™ 4 - 12 % precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 4 - 12 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 30 up to 300 kDa.

Cat.No.	Size
43288.01	10 gels

SERVA*Gel*™ TG PRiME™ 4 - 20 % precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 4 - 20 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 6 up to 200 kDa.

Cat.No.	Size
43277.01	10 gels

SERVA*Gel*™ TG PRiME™ 4 - 20 % precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 4 - 20 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 6 up to 200 kDa.

Cat.No.	Size
43276.01	10 gels

SERVA*Gel*™ TG PRiME™ 4 - 20 % precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 4 - 20 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 6 up to 200 kDa.

Cat.No.	Size
43289.01	10 gels

SERVA*Gel*™ TG PRiME™ 8 - 16 % precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 8 - 16 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 250 kDa.

Cat.No.	Size
43280.01	10 gels

SERVA*Gel*™ TG PRiME™ 8 - 16 % precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 8 - 16 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 250 kDa.

Cat.No.	Size
43279.01	10 gels

SERVA*Gel*™ TG PRiME™ 8- 16 % precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 8 - 16 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system (2 gels, 35 min at 350 V const.). It can be operated under native and denaturing conditions. The separation range is from 20 up to 250 kDa

Cat.No.	Size
43290.01	10 gels

SERVA*Gel*™ TG PRiME™ 8 - 16 % precast gel, 2D well

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Obtained from proprietary development, SERVA*Gel*™ TG PRiME™ 8 -16 % features an extended shelf life and short electrophoresis times by using a standard Tris/glycine buffer system. The 2D gel has one very planar slot for optimum transfer of proteins in the second dimension. For the first dimension IPG strips of 7 cm length can be used. The separation distance is 7 cm.

Cat.No.	Size
43281.01	10 gels

SERVA*Gel*™ Neutral HSE precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ Neutral HSE is a specially for High Speed Electrophoresis developed version of the SERVA*Gel*™ Neutral pH 7.4 Gradient (cat. no. 43223). With the standard SDS-Tris-glycine buffer system (Laemmli) it can be operated at 400 V, which reduces the electrophoresis time to 20 min.
The separation range is from 6.5 up to 200 kDa.
Obtained from proprietary development, the SERVA*Gel*™ Neutral HSE features extended shelf life due to its neutral buffer system.

Cat.No.	Size
43246.01	10 gels

SERVA*Gel*™ Neutral HSE precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ Neutral HSE is a specially for High Speed Electrophoresis developed version of the SERVA*Gel*™ Neutral pH 7.4 Gradient (cat. no. 43221). With the standard SDS-Tris-glycine buffer system (Laemmli) it can be operated at 400 V, which reduces the electrophoresis time to 20 min.
The separation range is from 6.5 up to 200 kDa.
Obtained from proprietary development, the SERVA*Gel*™ Neutral HSE features extended shelf life due to its neutral buffer system.

Cat.No.	Size
43245.01	10 gels

SERVA*Gel*™ Neutral HSE precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ Neutral HSE is a specially for High Speed Electrophoresis developed version of the SERVA*Gel*™ Neutral pH 7.4 Gradient (cat. no. 43223). With the standard SDS-Tris-glycine buffer system (Laemmli) it can be operated at 400 V, which reduces the electrophoresis time to 20 min.
The separation range is from 6.5 up to 200 kDa.
Obtained from proprietary development, the SERVA*Gel*™ Neutral HSE features extended shelf life due to its neutral buffer system.

Cat.No.	Size
43249.01	10 gels

SERVA*Gel*™ Neutral HSE, 2D precast gel, 2D well

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ Neutral HSE, 2D well is a specially for High Speed Electrophoresis developed version of the SERVA*Gel*™ Neutral pH 7.4 Gradient. With the standard SDS-Tris-glycine buffer system (Laemmli) two 2D gels can be operated at 300 V, which reduces the electrophoresis time to 40 min.
For the first dimension IPG strips of 7 cm length can be used. The separation distance is 7 cm.
Obtained from proprietary development, the SERVA*Gel*™ Neutral HSE features extended shelf life due to its neutral buffer system.

Cat.No.	Size
43247.01	10 gels

SERVA*Gel*™ Neutral pH 7.4 precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ Neutral pH 7.4 can be operated with various buffer systems such as Tris-glycine, MOPS-Tris, Tris-Tricine. The separation range is from 6.5 up to 200 kDa.
Obtained from proprietary development, the SERVA*Gel*™ Neutral pH 7.4 features extended shelf life due to its neutral buffer system.

Cat.No.	Size
43222.01	10 gels

SERVA*Gel*™ Neutral pH 7.4 precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ Neutral pH 7.4 can be operated with various buffer systems such as Tris-glycine, MOPS-Tris, Tris-Tricine. The separation range is from 6.5 up to 200 kDa.
Obtained from proprietary development, the SERVA*Gel*™ Neutral pH 7.4 features extended shelf life due to its neutral buffer system.

Cat.No.	Size
43220.01	10 gels

SERVA*Gel*™ Neutral pH 7.4 precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ Neutral pH 7.4 can be operated with various buffer systems such as Tris-glycine, MOPS-Tris, Tris-Tricine. The separation range is from 6.5 up to 200 kDa.
Obtained from proprietary development, the SERVA*Gel*™ Neutral pH 7.4 features extended shelf life due to its neutral buffer system.

Cat.No.	Size
43256.01	10 gels

SERVA*Gel*™ N 3 - 12, Vertical Native Gel 3 - 12 %
precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ N 3 - 12 can be operated with the Blue and Clear Native buffer systems. Also included in the SERVA*Gel*™ N Native Starter Kit (cat. no. 43204) containing buffers and reagents for Blue and Clear Native gel electrophoresis.

Cat.No.	Size
43251.01	10 gels

SERVA*Gel*™ N 3 - 12, Vertical Native Gel 3 - 12 %
precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ N 3 - 12 can be operated with the Blue and Clear Native buffer systems. Also included in the SERVA*Gel*™ N Native Starter Kit (cat. no. 43204) containing buffers and reagents for Blue and Clear Native gel electrophoresis.

Cat.No.	Size
43250.01	10 gels

SERVA*Gel*™ N 3 - 12, Vertical Native Gel 3 - 12 %
precat gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ N 3 - 12 can be operated with the Blue and Clear Native buffer systems. Also included in the SERVA*Gel*™ N Native Starter Kit (cat. no. 43204) containing buffers and reagents for Blue and Clear Native gel electrophoresis.

Cat.No.	Size
43254.01	10 gels

SERVA*Gel*™ N 4 - 16, Vertical Native Gel 4 - 16 %
precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ N 4 - 16 can be operated with the Blue and Clear Native buffer systems. Also included in the SERVA*Gel*™ N Native Starter Kit (cat. no. 43204) containing buffers and reagents for Blue and Clear Native gel electrophoresis.

Cat.No.	Size
43252.01	10 gels

SERVA*Gel*™ N 4 - 16, Vertical Native Gel 4 - 16 %
precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ N 4 - 16 can be operated with the Blue and Clear Native buffer systems. Also included in the SERVA*Gel*™ N Native Starter Kit (cat. no. 43204) containing buffers and reagents for Blue and Clear Native gel electrophoresis.

Cat.No.	Size
43253.01	10 gels

SERVA*Gel*™ N 4 - 16, Vertical Native Gel 4 - 16 %
precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ N 4 - 16 can be operated with the Blue and Clear Native buffer systems. Also included in the SERVA*Gel*™ N Native Starter Kit (cat. no. 43204) containing buffers and reagents for Blue and Clear Native gel electrophoresis.

Cat.No.	Size
43255.01	10 gels

SERVA*Gel*™ N Native Starter Kit

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The SERVA*Gel*™ N gels were developed for native gel electrophoresis. The gels can be operated in Blue and Clear Native buffer systems. Due to their neutral buffer system, the SERVA*Gel*™ N gels feature extended shelf life.

Contains:
2 precast gels SERVA*Gel*™ N 3 - 12, Vertical Native Gels 3 - 12 %
2 precast gels SERVA*Gel*™ N 4 - 16, Vertical Native Gels 4 - 16 %
250 ml 10x Native Anode Buffer for BN/CN (cat. no. 42535)
250 ml 10x Native Cathode Buffer for BN/CN (cat. no. 42536)
50 µl SERVA Native Marker Liquid Mix for BN/CN (cat. no. 39219)
2 ml Sample Buffer for Blue Native (2x) (cat. no. 42533)
2 ml Sample Buffer for Clear Native (2x) (cat. no. 42534)
5 ml SERVA Blue G Solution for BN, 1 % (cat. no. 42538)

Cat.No.	Size
43204.01	1 kit

SERVA*Gel*™ IEF 3 - 10 precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ IEF 3 - 10 is suitable for isoelectric focusing (IEF) in a pH range of 3 to 8.5 (Standard IEF) and 5.5 to 11 (non-equilibrium pH gradient electrophoresis, NEPHGE). For NEPHGE you change cathode and anode buffer as well as polarity of the electrophoresis chamber. In contrast to standard IEF, samples are loaded anodic, which enables an optimal separation of basic to very basic proteins.

Cat.No.	Size
43242.01	10 gels

SERVA*Gel*™ IEF 3 - 10 precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ IEF 3 - 10 is suitable for isoelectric focusing (IEF) in a pH range of 3 to 8.5 (Standard IEF) and 5.5 to 11 (non-equilibrium pH gradient electrophoresis, NEPHGE). For NEPHGE you change cathode and anode buffer as well as polarity of the electrophoresis chamber. In contrast to standard IEF, samples are loaded anodic, which enables an optimal separation of basic to very basic proteins.

Cat.No.	Size
43240.01	10 gels

SERVA*Gel*™ IEF 3 - 10 precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The precast gel SERVA*Gel*™ IEF 3 - 10 is suitable for isoelectric focusing (IEF) in a pH range of 3 to 8.5 (Standard IEF) and 5.5 to 11 (non-equilibrium pH gradient electrophoresis, NEPHGE). For NEPHGE you change cathode and anode buffer as well as polarity of the electrophoresis chamber. In contrast to standard IEF, samples are loaded anodic, which enables an optimal separation of basic to very basic proteins.

Cat.No.	Size
43239.01	10 gels

SERVA*Gel*™ IEF 4 - 7 precast gel, 10 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The SERVA*Gel*™ IEF 4 - 7 can be operated under native or denaturing conditions. The concentration of the acrylamide matrix is 5 % T, 3 %C, SERVALYT™ content is approx. 3 %.

Cat.No.	Size
43243.01	10 gels

SERVA*Gel*™ IEF 4 - 7 precast gel, 12 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C

The SERVA*Gel*™ IEF 4 - 7 can be operated under native or denaturing conditions. The concentration of the acrylamide matrix is 5 % T, 3 %C, SERVALYT™ content is approx. 3 %.

Cat.No.	Size
43241.01	10 gels

SERVA*Gel*™ IEF 4 - 7 precast gel, 15 sample wells

HS 38220000
Storage temperature +2 °C to +8 °C ✻

The SERVA*Gel*™ IEF 4 - 7 can be operated under native or denaturing conditions. The concentration of the acrylamide matrix is 5 % T, 3 %C, SERVALYT™ content is approx. 3 %.

Cat.No.	Size
43244.01	10 gels

SERVA*Gel*™ IEF Starter Kit

HS 38220000
Storage temperature +2 °C to +8 °C ✻

Contains:
4 SERVA*Gel*™ IEF precast gels of your choice (cat. no. 43240 or 43242)
SERVA IEF Anode Buffer (1x, powder for 2.5 L buffer, cat. no. 42539)
SERVA IEF Cathode Buffer 3-10 (10x, powder for 100 ml buffer, cat. no. 42539)
IEF Sample Buffer (2x 1 ml, cat. no. 42537)
SERVA Violet 17 (0.5 g, cat. no. 35072)
SERVA IEF Marker 3-10, Liquid Mix (30 µl, cat. no. 39212)

Cat.No.	Size
43205.01	1 kit

SERVA*Gel*™ IEF Running Buffer Kit

HS 38220000
Storage temperature +2 °C to +8 °C

Running Buffer Kit for SERVA*Gel*™ IEF 3 - 10.
Contains:
SERVA IEF Anode Buffer (1x, powder for 5 L buffer)
SERVA IEF Cathode Buffer 3 -1 0 (10x, powder for 200 ml buffer)

Cat.No.	Size
42539.01	1 kit

SERVA*Light* Polaris CL HRP WB Substrate Kit

HS 38220000
Storage temperature +2 °C to +8 °C

Highly sensitive enhanced chemiluminescence kit for the detection of immobilized proteins (Western Blot) or immobilized nucleic acids (Southern and Northern Blot) labelled directly with Horseradish Peroxidase (HRP) or indirectly with HRP-labelled antibodies/streptavidin.
The substrate is readily prepared by mixing component A (luminol/enhancer solution) with component B (stabilized peroxide solution) in a one-to-one ratio. 0.1 ml substrate is sufficient for one cm² membrane.

- High sensitivity, low picogram limit of detection
- Long light emission for 6 hours
- Primary antibody dilution 1:1000 -1:5000
- Secondary antibody dilution 1:20.000 – 1:100.000
- Detection can be done by film or CCD imaging equipment

Cat.No.	Size
42584.01	100 ml
42584.02	250 ml

SERVA*Light* Eos CL HRP WB Substrate Kit

HS 38220000
Storage temperature +2 °C to +8 °C

Very highly sensitive enhanced chemiluminescence kit for the detection of immobilized proteins (Western Blot) or immobilized nucleic acids (Southern and Northern Blot) labelled directly with Horseradish Peroxidase (HRP) or indirectly with HRP-labelled antibodies/streptavidin.
The substrate is readily prepared by mixing component A (luminol/enhancer solution) with component B (stabilized peroxide solution) in a one-to-one ratio. 0.1 ml substrate is sufficient for one cm² membrane.

- Very high sensitivity, mid femtogram limit of detection
- Very long and steady light emission for 12 hours
- Primary antibody dilution 1:1000 -1:15.000
- Secondary antibody dilution 1:25.000 – 1:150.000
- Detection can be done by film or CCD imaging equipment

Cat.No.	Size
42585.02	250 ml

SERVA*Light* EosUltra CL HRP WB Substrate Kit

HS 38220000
Storage temperature +2 °C to +8 °C

Ultrahigh sensitive enhanced chemiluminescence kit for the detection of immobilized proteins (Western Blot) or immobilized nucleic acids (Southern and Northern Blot) labelled directly with Horseradish Peroxidase (HRP) or indirectly with HRP-labelled antibodies/streptavidin.
The substrate is readily prepared by mixing component A (luminol/enhancer solution) with component B (stabilized peroxide solution) in a one-to-one ratio. 0.1 ml substrate is sufficient for one cm² membrane.
SERVA*Light* EosUltra substrate is optimized for maximum length of light emission and therefore ideal for detection by CCD imaging systems.

- Ultrahigh sensitivity, mid to low femtogram limit of detection
- Extremely long light emission at a very high signal level for 18 hours
- Primary antibody dilution 1:5000 -1:50.000
- Secondary antibody dilution 1:50.000 – 1:250.000
- Detection can be done preferably by CCD imaging equipment or film

Cat.No.	Size
42586.02	100 ml

SERVA*Light* Helios CL HRP WB Substrate Kit

HS 38220000
Storage temperature +2 °C to +8 °C

Extremely sensitive enhanced chemiluminescence kit for the detection of immobilized proteins (Western Blot) or immobilized nucleic acids (Southern and Northern Blot) labelled directly with Horseradish Peroxidase (HRP) or indirectly with HRP-labelled antibodies/streptavidin.
The substrate is readily prepared by mixing component A (luminol/enhancer solution) with component B (stabilized peroxide solution) in a one-to-one ratio. 0.1 ml substrate is sufficient for one cm² membrane.
Due to the extremely high light output of the SERVA*Light* Helios substrate very short exposure times or very high dilution of antibodies can be used. Especially when using film detection this is critical to receive optimal performance.

- Extreme sensitivity, low femtogram limit of detection
- Long light emission for 8 hours
- Primary antibody dilution 1:5000 -1:100.000
- Secondary antibody dilution 1:100.000 – 1:500.000
- Detection can be done preferably by CCD imaging equipment or film

Cat.No.	Size
42587.01	20 ml
42587.02	100 ml
42587.03	200 ml

SERVA*Light* Vega CL HRP WB Substrate Kit

HS 38220000
Storage temperature +2 °C to +8 °C

Highly sensitive enhanced chemiluminescence kit for the detection of immobilized proteins (Western Blot) or immobilized nucleic acids (Southern and Northern Blot) labelled directly with Horseradish Peroxidase (HRP) or indirectly with HRP-labelled antibodies/streptavidin. The substrate is readily prepared by mixing component A (luminol/enhancer solution) with component B (stabilized peroxide solution) in a one-to-one ratio. 0.1 ml substrate is sufficient for one cm² membrane.

- High sensitivity, mid picogram limit of detection
- Directly compatible with protocols of standard ECL WB substrates of other vendors
- Low background, high signal/noise ratio
- Working solution is stable for minimum 5 days – reproducible results, less waste
- Primary antibody dilution 1:100 -1:5000
- Secondary antibody dilution 1:1000 – 1:15.000
- Detection can be done by film or CCD imaging equipment

Cat.No.	Size
42588.02	250 ml
42588.03	500 ml

SERVA*Light* PreMix Vega CL HRP WB Substrate

HS 38220000
Storage temperature +15 °C to +30 °C

SERVALight PreMix chemiluminescent horseradish peroxidase (HRP) substrates are ready-to-use solutions for convenient and fast detection of proteins in Western Blotting. The pre-mixed solutions save time and increase consistency in your results, avoiding pipetting errors and possible contaminations.
SERVALight PreMix Vega is an entry-level HRP Western Blot substrate, ideal for routine analysis.
0.1 ml substrate is sufficient for one cm² membrane.

- High sensitivity, mid picogram limit of detection
- No mixing, ready-to-use at room temperature
- Low background, high signal/noise ratio
- Primary antibody dilution 1:100 -1:5000
- Secondary antibody dilution 1:1000 – 1:15,000
- Signal duration 3 hours

Cat.No.	Size
42655.01	250 ml

SERVA*Light* PreMix Eos CL HRP Substrate

HS 38220000
Storage temperature +15 °C to +30 °C

SERVALight PreMix chemiluminescent horseradish peroxidase (HRP) substrates are ready-to-use solutions for convenient and fast detection of proteins in Western Blotting. The pre-mixed solutions save time and increase consistency in your results, avoiding pipetting errors and possible contaminations.
SERVALight PreMix Eos is a versatile HRP Western Blot substrate. Its high signal intensity combined with a broad linear dynamic range allows an accurate quantification of both low and high abundance proteins on the same Western Blot.
0.1 ml substrate is sufficient for one cm² membrane.

- Very high sensitivity, mid femtogram limit of detection
- No mixing, ready-to-use at room temperature
- Low background, high signal/noise ratio
- Primary antibody dilution 1:1000 -1:15,000
- Secondary antibody dilution 1:25,000 – 1:150,000
- Signal duration 4 hours

Cat.No.	Size
42656.01	250 ml

SERVA*Light* PreMix Helios CL HRP WB Substrate

HS 38220000
Storage temperature +15 °C to +30 °C

SERVALight PreMix chemiluminescent horseradish peroxidase (HRP) substrates are ready-to-use solutions for convenient and fast detection of proteins in Western Blotting. The pre-mixed solutions save time and increase consistency in your results, avoiding pipetting errors and possible contaminations.
SERVALight PreMix Helios is an extremely sensitive HRP Western Blot substrate with excellent signal intensity, which enables to detect very low amounts of proteins reducing the needed quantitiy of antibodies.
0.1 ml substrate is sufficient for one cm² membrane.

- Extreme sensitivity, low femtogram limit of detection
- No mixing, ready-to-use at room temperature
- Low background, high signal/noise ratio
- Primary antibody dilution 1:5000 -1:100,000
- Secondary antibody dilution 1:100,000 – 1:500,000
- Signal duration 2 hours

Cat.No.	Size
42657.01	250 ml

SERVALYT™ 2-4

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42902.01	10 ml
42902.02	25 ml

SERVALYT™ 2-9 Seed-Mix

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Special quality for seed analysis by IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42935.01	10 ml
42935.02	25 ml
42935.03	100 ml

SERVALYT™ 2-11

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42900.01	10 ml
42900.02	25 ml

SERVALYT™ 3-4

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42922.01	10 ml
42922.02	25 ml

SERVALYT™ 3-5

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42903.04	2 ml
42903.01	10 ml
42903.02	25 ml

SERVALYT™ 3-6

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42944.04	2 ml
42944.01	10 ml
42944.02	25 ml

SERVALYT™ 3-7

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42945.01	10 ml
42945.02	25 ml

SERVALYT™ 3-10

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42940.04	2 ml
42940.01	10 ml
42940.02	25 ml

SERVALYT™ 3-10 Iso-Dalt, for 2D Electrophoresis

HS 38220000
Storage temperature +2 °C to +8 °C

Iso-Dalt quality; special 2D grade to be used in 2D electrophoresis.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42951.04	2 ml
42951.01	10 ml
42951.02	25 ml

SERVALYT™ 4-5

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42923.01	10 ml
42923.02	25 ml

SERVALYT™ 4-6

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42904.04	2 ml
42904.01	10 ml
42904.02	25 ml

SERVALYT™ 4-7

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42948.04	2 ml
42948.01	10 ml
42948.02	25 ml

SERVALYT™ 4.2-4.9

HS 38220000
Storage temperature +2 °C to +8 °C

Besides general use in IEF suitable for phenotyping of alpha-1-antitrypsin by hybrid IEF. This is used for diagnosis of alpha-1-antitrypsin deficiency.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42926.01	10 ml
42926.02	25 ml

SERVALYT™ 4-9 T

HS 38220000
Storage temperature +2 °C to +8 °C

Technical grade quality for preparative work. Formation of solid particle (quart. ammonium salts) can be found over time of storage at low temperature. This will not affect the separation as precipitate will dissolve upon dilution (working solution) or warming up to room temperature.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42910.01	10 ml
42910.02	25 ml
42910.03	100 ml

SERVALYT™ 5-6

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42924.01	10 ml
42924.02	25 ml

SERVALYT™ 5-7

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42905.04	2 ml
42905.01	10 ml
42905.02	25 ml

SERVALYT™ 5-8

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42949.04	2 ml
42949.01	10 ml
42949.02	25 ml

SERVALYT™ 5-9

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42950.01	10 ml
42950.02	25 ml

SERVALYT™ 6-7

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42925.01	10 ml
42925.02	25 ml

SERVALYT™ 6-8

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42906.04	2 ml
42906.01	10 ml
42906.02	25 ml

SERVALYT™ 6-9

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42913.04	2 ml
42913.01	10 ml
42913.02	25 ml

SERVALYT™ 7-9

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42907.04	2 ml
42907.01	10 ml
42907.02	25 ml

SERVALYT™ 8-10

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42911.01	10 ml
42911.02	25 ml

SERVALYT™ 9-11

HS 38220000
Storage temperature +2 °C to +8 °C

SERVALYT™ Carrier Ampholytes (40 % w/v in water). Standard quality (analytical grade) for general use in IEF.

SERVALYT is a trademark of SERVA.

Cat.No.	Size
42909.01	10 ml
42909.02	25 ml

SERVALYT™ PRECOTES™ Wide Range pH 3-10

(Precast Gels for IEF; PRECOTES™)

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 150 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42965.03	5 gels

SERVALYT™ PRECOTES™ Wide Range pH 3-10

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 150 µm; size 245 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42967.02	5 gels

SERVALYT™ PRECOTES™ Wide Range pH 3-10

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 300 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42866.02	5 gels

SERVALYT™ PRECOTES™ Wide Range pH 3-10

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 300 µm; size 245 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42867.02	5 gels

SERVALYT™ PRECOTES™ Range pH 3-6

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 150 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42974.02	5 gels

SERVALYT™ PRECOTES™ Range pH 3-6

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 150 µm; size 245 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42919.03	5 gels

SERVALYT™ PRECOTES™ Range pH 3-6

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 300 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42874.02	5 gels

SERVALYT™ PRECOTES™ Range pH 4-6

DANGER
H340-H350-H361F ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 300 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42875.02	5 gels

SERVALYT™ PRECOTES™ Range pH 6-9

DANGER
H340-H350-H361F ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 150 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42978.02	5 gels

SERVALYT™ PRECOTES™ Range pH 6-9

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

PAG Layer 300 µm; size 125 x 125 mm.
Horizontal precast polyacrylamide gels for IEF. The ultra-thin layer guarantees short focusing and staining/destaining times with high resolution and band sharpness. Gels are cast on a stable, inert polyester support film. Therefore they are despite the thin layer easy to handle and protected against mechanical damages like e. g. ripping of the gel matrix. The thin cover sheet (GEL-FIX™ for covers) prevents the surface from drying out and damages.

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42878.02	5 gels

SERVALYT™ PRECOTES™ CSF Kit

DANGER
H340-H350 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

For cerebrospinal fluid (CSF) analysis by isoelectric focusing.
The kit contains:

- 5 SERVALYT™ PRECOTES™ CSF gels 245 x 125 mm, 300 µm
- Anode and cathode buffer solutions
- Applicator strips and electrode wicks
- Optimized protocol for silver staining

SERVALYT PRECOTES is a trademark of SERVA.

Cat.No.	Size
42800.01	1 kit

SERVALYT™ PreNets™ pH 3-10

(PreNets™)
HS 38220000
Storage temperature +2 °C to +8 °C

PAG layer 300 µm, size: 125 x 125 mm.
SERVALYT™ PreNets™ for subsequent blotting. They are precast gels, used in the same manner as the related SERVALYT™ PRECOTES ™ except that the gel, supported by a NetFix™ polyester fabric, is permeable for electrotransfer. The gel layer is not covalently bound to the backing and is lifted off easily.

SERVALYT PreNets is a trademark of SERVA.

Cat.No.	Size
42738.02	5 gels

SERVAPOR® Closure, 45 mm

HS 39173200

Made from polyamide. Specifically designed for leak-free soaking of dialysis membranes. Do not float, autoclavable.

Cat.No.	Size
44608.01	10 pieces

SERVAPOR® Closure, 65 mm

HS 39173200

Made from polyamide. Specifically designed for leak-free soaking of dialysis membranes. Do not float, autoclavable.

Cat.No.	Size
44609.01	10 pieces

SERVAPOR® Closure, 110 mm

HS 39173200

Made from polyamide. Specifically designed for leak-free soaking of dialysis membranes. Do not float, autoclavable.

Cat.No.	Size
44610.01	10 pieces

SERVAPOR® 3 dialysis tubing, MWCO 3500

RC, diameter 16 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. Delivered with a pair free of charge dialysis membrane closures and manual.

Nominal dry flat width	25 mm
Nominal dry diameter	16 mm
Approx. filling volume	2.0 ml/cm
Nominal dry wall thickness	20 µm

Cat.No.	Size
44558.01	15 m
44558.02	30 m

SERVAPOR® 3 dialysis tubing, MWCO 3500

RC, diameter 28 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. Delivered with a pair free of charge dialysis membrane closures and manual.

Nominal dry flat width	44 mm
Nominal dry diameter	28 mm
Approx. filling volume	6.2 ml/cm
Nominal dry wall thickness	20 µm

Cat.No.	Size
44559.01	15 m
44559.02	30 m

SERVAPOR® 3 dialysis tubing, MWCO 3500

RC, diameter 35 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. Delivered with a pair free of charge dialysis membrane closures and manual.

Nominal dry flat width	55 mm
Nominal dry diameter	35 mm
Approx. filling volume	9.6 ml/cm
Nominal dry wall thickness	25 µm

Cat.No.	Size
44560.01	15 m

SERVAPOR® 6 dialysis tubing, MWCO 6000 - 8000

RC, diameter 16 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. Delivered with a pair free of charge dialysis membrane closures and manual.

Nominal dry flat width	25 mm
Nominal dry diameter	16 mm
Approx. filling volume	2.0 ml/cm
Nominal dry wall thickness	20 µm

Cat.No.	Size
44561.02	30 m

SERVAPOR® 6 dialysis tubing, MWCO 6000 - 8000
RC, diameter 22 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. Delivered with a pair free of charge dialysis membrane closures and manual.

Nominal dry flat width	34 mm
Nominal dry diameter	22 mm
Approx. filling volume	3.8 ml/cm
Nominal dry wall thickness	23 µm

Cat.No.	Size
44562.02	30 m

SERVAPOR® 6 dialysis tubing, MWCO 6000 - 8000
RC, diameter 28 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C. Delivered with a pair free of charge dialysis membrane closures and manual.

Nominal dry flat width	44 mm
Nominal dry diameter	28 mm
Approx. filling volume	6.2 ml/cm
Nominal dry wall thickness	20 µm

Cat.No.
44563.02

SERVAPOR® dialysis tubing, MWCO 12 000 - 14 000
RC, diameter 6 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	approx. 25 Å
Nominal dry flat width	10 mm
Nominal dry diameter	6 mm
Approx. filling volume	0.3 ml/cm
Nominal dry wall thickness	50 µm

Cat.No.	Size
44139.01	5 m
44139.02	25 m

SERVAPOR® dialysis tubing, MWCO 12 000 - 14 000
RC, diameter 16 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	approx. 25 Å
Nominal dry flat width	25 mm
Nominal dry diameter	16 mm
Approx. filling volume	2.0 ml/cm
Nominal dry wall thickness	20 µm

Cat.No.	Size
44145.01	5 m
44145.04	25 m

SERVAPOR® dialysis tubing, MWCO 12 000 - 14 000
RC, diameter 21 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	approx. 25 Å
Nominal dry flat width	34 mm
Nominal dry diameter	21 mm
Approx. filling volume	3.4 ml/cm
Nominal dry wall thickness	25 µm

Cat.No.	Size
44144.01	5 m
44144.02	25 m

SERVAPOR® dialysis tubing, MWCO 12 000 - 14 000
RC, diameter 29 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	approx. 25 Å
Nominal dry flat width	45 mm
Nominal dry diameter	29 mm
Approx. filling volume	6.5 ml/cm
Nominal dry wall thickness	20 µm

Cat.No.	Size
44146.01	5 m
44146.04	25 m

SERVAPOR® dialysis tubing, MWCO 12 000 - 14 000
RC, diameter 50 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	approx. 25 Å
Nominal dry flat width	80 mm
Nominal dry diameter	50 mm
Approx. filling volume	18.5 ml/cm
Nominal dry wall thickness	40 µm

Cat.No.	Size
44148.01	5 m
44148.02	25 m

Sialidase, recombinant lyophilized
(Neuraminidase, Exoglycosidase)
Mr 85.000
Storage Temperature: +15 °C to +30 °C

Sialidases are a family of exoglycosidases that catalyze the cleavage of non-reducing sialic acid residues of mono- or oligosaccharide chains on glycoconjugates. SERVA Sialidase, a recombinant glycosidase from *Arthrobacter ureafaciens*, cleaves α2,3-, α2,6- and α2,8- linked sialic acids. Because of its broad substrate specificity, Sialidase is capable of completely removing sialic acids from glycoconjugates of a wide variety of biological materials (cells, antibodies, serum, tissues etc.).

- Especially designed and tested for mass spectrometry imaging and HPLC/UPLC
- Contains a His-tag for easy removal by affinity chromatography

Because the enzyme is lyophilized, there is no need for refrigerated transport and storage is at room temperature. Concentration after reconstitution: 50 u/µl in 100 µl H_2O dest.

Unit definition: Denatured alpha-1-antitrypsin (A1AT) (10µg) is incubated with 1 µL of reconstituted Sialidase for 60 minutes at 37 °C and then analyzed by SDS-PAGE and analysis with the sialic acid binding Sambucus nigra lectin (SNA).

Cat.No.	Size
36409.01	100 µl

Silicone anti-foam emulsion, 30 % USP

(30 % Simethicone)
HS 39100000

Dow Corning® 30 % polydimethylsiloxane in water; contains traces of emulsifiers derived from plant.

Cat.No.	Size
35119.01	100 ml
35119.02	500 ml

Silicone DC 200 fluid; 10 cst pract.

WGK 1L ♦ HS 39100000

Dimethyl siloxane polymer (methyl silicones).
In terms of SI-units: 1 cSt = $10^{-6}m^2s^{-1}$
Density (25 °C) 0.934 - 0.940

Cat.No.	Size
35132.01	500 g

Silicone DC 200 fluid; 50 cst pract.

WGK 1L ♦ HS 39100000

Dimethyl siloxane polymer (methyl silicones).
In terms of SI-units: 1 cst = $10^{-6}m^2s^{-1}$
Density (25 °C) 0.957 - 0.963

Cat.No.	Size
35134.01	500 g

Silicone DC 200 fluid; 100 cst pract.

WGK 1L ♦ HS 39100000

Dimethyl siloxane polymer (methyl silicones).
In terms of SI-units: 1 cst = $10^{-6}m^2s^{-1}$
Density (25 °C) 0.962 - 0.968

Cat.No.	Size
35135.01	500 g

Silicone DC 200 fluid; 350 cst pract.

WGK 1L ♦ HS 39100000

Dimethyl siloxane polymer (methyl silicones).
In terms of SI-units: 1 cst = $10^{-6}m^2s^{-1}$
Density (25 °C) 0.966 - 0.972

Cat.No.	Size
35136.01	500 g

Silicone DC 550 fluid; 115 cst pract.

CAS [63148-52-7]

WGK 1L ♦ HS 39100000

(Polyphenylmethyldimethylsiloxane)
In terms of SI-units: 1 cst = $10^{-6}m^2s^{-1}$
(25 % Methyl-75 % phenylsilicone). Excellent thermostability; lubricant; for instrument sterilization.
Density (25 °C) 1.06 - 1.07

Cat.No.	Size
35145.01	500 g

Silicone DC 710 fluid; 500 cst pract.

M_r 2600 ♦ CAS [63148-58-3]

WGK 1L ♦ HS 39100000

(Phenylmethyldimethylsiloxane)
In terms of SI-units: 1 cst = $10^{-6}m^2s^{-1}$
(50 % Methyl-50 % phenylsilicone). For GC, tmax. 225 °. Extremely stable at high temperatures.
Density (25 °C) 1.10 - 1.11

Cat.No.	Size
35149.04	1 kg

Silicone solution SERVA for siliconizing glass and metal in isopropanol

DANGER
H225-H319-H336 ♦ GGVSE/ADR 3 II UN1219 ♦ IATA 3 II UN1219 ♦ WGK 1 ♦ HS 39100000

Suitable for siliconizing UV quartz cuvettes.

References:
1. J. Biol. Chem. (1995), 270 (52), 30927-32

Cat.No.	Size
35130.01	100 ml
35130.03	250 ml
35130.02	1 L

Silver nitrate analytical grade

$AgNO_3$ ♦ M_r 169.89 ♦ CAS [7761-88-8]

DANGER
H272-H314-H400-H410 ♦ MAK/TRK 0,01E ♦ EG-Index 047-001-00-2 ♦ GGVSE/ADR 5.1 II UN1493 IATA 5.1 II UN1493 ♦ EINECS 231-853-9 ♦ WGK 3L ♦ HS 28342980

Ultra-pure quality, application-tested for protein staining.

Assay	min. 99.9 %

Cat.No.	Size
35110.01	25 g
35110.02	100 g

SingleQuant Assay Kit

DANGER
H225-H314 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

Single tube format assay kit for protein quantification. The assay bases on the precipitation of proteins as insoluble dye complexes with acidic, ethanolic amido black 10B solution (1,2). After precipitation the protein-dye complexes are spinned down. The pellet is washed and resolubilized. The thereby released dye amount is measured at 624 nm.

- Precise, reproducible, reliable assay data
- Completed in only 45 min.
- No interference with detergents or reducing agents
- Detection range starts as low as 2 µg protein.

References:
1. Schaffner W., Weissmann C. (1973) Anal. Biochem. ***65:*** 502-514.
2. Popov N., Schmitt M., Schulzeck S., Matthies H. (1975) Acta Biol. Med. Ger. ***34 (9)***: 1441-1446.

Cat.No.	Size
39226.01	200 tests

Skim Milk Powder for blotting

CAS [68514-61-4]

HS 04021011

Skim milk powder is used as a blocking reagent in immunological assays like Western Blotting or ELISA. It is as well suitable for blocking of nitrocellulose filters in cDNA cloning.
It is not suitable for biotin/streptavidin detection systems, because milk contains biotin.

Protein	32.0 - 40.0 %
Fat	max. 1.25 %
Lactose	45.0 - 56.0 %
pH (10 % in water)	6.4 - 6.7
Ash	max. 8.5
Water	max. 4.0 %

References:
1. Johnson, D. A. et al. (1987) Gene Anal. Techn. ***1***, 3 – 8
2. Harlow, E. & Lane, D. (1988) Antibodies: A Laboratory Manual, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, New York

Cat.No.	Size
42590.01	500 g
42590.02	1 kg
42590.03	5 kg

Sodium-1-naphthyl hydrogen phosphate

see 30130 1-Naphthyl phosphate·Na-salt, page 73

Sodium-L-(+)-ascorbate

see 14033 L-Ascorbic acid·Na-salt, page 13

Sodium acetate analytical grade

(Acetic acid·Na-salt)
$C_2H_3O_2$·Na ♦ M_r 82.0 ♦ CAS [127-09-3]

EINECS 204-823-8 ♦ WGK 1L ♦ HS 29152900

Buffer substance used in the preparation of guanidine solution for total RNA preparation, pKa 25 = 4.76.

Assay (titr.)	min. 98.5 %
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
21249.02	500 g

Sodium acetate buffer pH 5.2, solution 3M molecular biology grade

(Acetic acid·Na-salt)
$C_2H_3O_2$·Na ♦ M_r 82.0 ♦ CAS [127-09-3]

HS 38220000

Sodium acetate buffer solution suitable for the use in the purification and precipitation of nucleic acids, protein crystallization, staining of gels in protein electrophoresis and HPLC. Sodium acetate solution has a buffering range from pH 3.6 - 5.6.
DNase/RNase not detected.

Composition:

$C_2H_3O_2$·Na (cat. no. 39571)	246.0 g/l

Cat.No.	Size
39572.01	250 ml

Sodium azide research grade

NaN_3 ♦ M_r 65.01 ♦ CAS [26628-22-8]

DANGER
H300-H410 ♦ MAK/TRK 0,2 mg/m³ ♦ EG-Index 011-004-00-7 ♦ GGVSE/ADR 6.1 II UN1687 ♦ IATA 6.1 II UN1687 ♦ EINECS 247-852-1 ♦ WGK 2L ♦ HS 28500060

Sodium azide is commonly used as a bacteriostatic preservative in biochemistry, molecular biology and cell biology.
It is also a metabolic inhibitor of oxidative phosphorylation

Assay (titr.)	min. 99.0 %

Cat.No.	Size
30175.01	100 g
30175.03	250 g
30175.02	1 kg

Sodium bicarbonate research grade, Ph. Eur., USP

(Sodium hydrogen carbonate)
$NaHCO_3$ ♦ M_r 84.0 ♦ CAS [144-55-8]

EINECS 205-633-8 ♦ WGK 1 ♦ HS 28363000

Tested for use in tissue culture. Buffering substance.

Assay (titr.)	99.0 - 100.5 %
pH 5 % in water	7.9 - 8.4
Heavy metals (Pb)	max. 5 ppm

Cat.No.	Size
30180.02	1 kg

Sodium cacodylate

see 15540 Cacodylic acid·Na-salt·3H_2O, page 22

Sodium carbonate analytical grade, Ph. Eur.

Na_2CO_3 ♦ M_r 106.0 ♦ CAS [497-19-8]

WARNING
H319 ♦ EG-Index 011-005-00-2 ♦ EINECS 207-838-8 ♦ WGK 1L ♦ HS 28362000

Component in coating buffers for immunoassays and may be used for the removal of peripheral membrane proteins.

Assay (titr.)	99.5 - 100.5 %
Heavy metals (Pb)	max. 50 ppm

Cat.No.	Size
30181.02	1 kg

Sodium chloride cryst. research grade, Ph. Eur., USP

NaCl ♦ M_r 58.44 ♦ CAS [7647-14-5]

EINECS 231-598-3 ♦ WGK 1L ♦ HS 25010099

Assay (titr.)	99.0 - 100.5 %
Heavy metals (Pb)	≤ 5 ppm

Cat.No.	Size
30183.01	1 kg
30183.02	5 kg

Sodium chloride molecular biology grade

NaCl ♦ M_r 4 58.44 ♦ CAS [7647-14-5]

EINECS 231-598-3 ♦ WGK 1L ♦ HS 25010099

DNase/RNase not detected.

Assay (titr.)	99.0 - 100.5 %
Heavy metals (Pb)	≤ 5 ppm

Cat.No.	Size
39781.01	250 g
39781.02	1 kg

Sodium cholate

see 17126 Cholic acid·Na-salt, page 25

Sodium deoxycholate

see 18330 Deoxycholic acid·Na-salt, page 31

Sodium dihydrogen phosphate·2H_2O research grade, Ph. Eur., USP

(Sodium phosphate monobasic (prim. sodium phosphate))
NaH_2PO_4·2H_2O ♦ M_r 156.01 ♦ CAS [13472-35-0]

EINECS 231-449-2 ♦ WGK 1L ♦ HS 28352200

Assay (titr.)	98.0 - 100.5 %

Cat.No.	Size
30186.02	1 kg

Sodium dodecyl sulfate

see 20765 Dodecylsulfate·Na-salt in Pellets, page 35

Sodium dodecyl sulfate

see 20760 Dodecylsulfate·Na-salt, page 35

Sodium hydrogen carbonate

see 30180 Sodium bicarbonate, page 124

di-Sodium hydrogen phosphate-2H_2O research grade, Ph. Eur., USP

CAS [10028-24-7]

EINECS 231-448-7 ♦ WGK 1L ♦ HS 28352200

Buffer substance for biochemical, enzymatic and histochemical assays.

Assay (dried basis)	99.0 - 100.5 %
pH 1 % in water	9,0 - 9,6
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
30201.01	500 g
30201.02	1 kg

di-Sodium hydrogen phosphate·2H_2O analytical grade

(Sodium phosphate dibasic (sec. sodium phosphate))
Na_2HPO_4·2H_2O ♦ M_r 177.99 ♦ CAS [10028-24-7]

EINECS 231-448-7 ♦ WGK 1L ♦ HS 28352200

Buffering substance according to Sörensen. Biochemical and enzymatic standard, tested for use in tissue culture.

Assay (titr.)	min. 99.5 %
pH 5 % solution	9.0 - 9.2
Heavy metals (Pb)	max. 10 ppm
Nitrogen (N)	max. 10 ppm

Cat.No.	Size
30200.01	500 g

Sodium laurylsulfate

see 20765 Dodecylsulfate·Na-salt in Pellets, page 35

Sodium laurylsulfate

see 20760 Dodecylsulfate·Na-salt, page 35

Sodium pyruvate

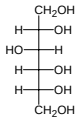
see 15220 Pyruvic acid·Na-salt, page 93

Sodium succinate

see 14972 Succinic acid·Na_2-salt, page 130

D-Sorbitol research grade

(Sorbit, Glucitol)
$C_6H_{14}O_6$ ♦ M_r 182.2 ♦ CAS [50-70-4]



HS 29054499
Storage Temperature: +15 °C to +30 °C

For biochemistry, bacteriology and microbiology

Assay (HPLC)	min. 98 %
MP	96 - 100 °C
Lead	max. 10 ppm

Cat.No.	Size
35231.02	1 kg

Spacer Strips

HS 39269097

Silicone, size 265 x 7 x 0.5 mm, for forming the mould in capillary casting techniques.

Cat.No.	Size
42901.01	4 pieces

Spectinomycin·2HCl pentahydrate

(Actinospectacin; M 141)
$C_{14}H_{24}N_2O_7 \cdot 2HCl \cdot 5H_2O$ ♦ M_r 495.4 ♦ CAS [22189-32-8]

WARNING
H315-H319-H335 ♦ EINECS 244-554-3 ♦ HS 29419000
Storage temperature +2 °C to +8 °C

Cell culture tested.
Water-soluble aminoglycoside antibiotic from *Streptomyces sp.* (1,2). Inhibitor of protein synthesis (3). Differs from other aminoglycoside derivatives in that it is bacteriostatic instead of bactericidal.

Stock solution: 10 mg/ml in distilled water, sterile filtered.
For molecular biology applications standard working concentration is 100 µg/ml and in cell culture 7.5 – 20 mg/l.

References:

1. Wagner J. G. et al. (1968) Int. Z. Klin. Pharmakol. Ther. Toxikol. ***1***, 261 – 85
2. Wallace, B.J. et al. (1979) Antibiotics ***5***, 272 – 303
3. Wallace, P.-C. et al. (1979) in Antibiotics, vol. ***V***, part I. Mechanism of Action of Antibacterial Agents, Springer Verlag Berlin

Cat.No.	Size
35294.01	5 g

Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000

RC, diameter 6.4 mm

HS 39173200

Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	10 mm
Nominal dry diameter	6.4 mm
Approx. filling volume	0.32 ml/cm
Nominal dry wall thickness	30 - 50 µm

Cat.No.	Size
44170.01	15 m

Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000

RC, diameter 14.6 mm

HS 39173200

Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	23 mm
Nominal dry diameter	14.6 mm
Approx. filling volume	1.7 ml/cm
Nominal dry wall thickness	30 - 50 µm

Cat.No.	Size
44171.01	30 m

Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000

RC, diameter 20.4 mm

HS 39173200

Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	32 mm
Nominal dry diameter	20.4 mm
Approx. filling volume	3.3 ml/cm
Nominal dry wall thickness	30 – 50 µm

Note:
The trial size of 5 m includes additionally one standard Spectra/Por® closure, one weighted Spectra/Por® closure and 5 opening picks.

Cat.No.	Size
44172.02	5 m
44172.01	30 m

Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000

RC, diameter 25.5 mm

HS 39173200

Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	40 mm
Nominal dry diameter	25.5 mm
Approx. filling volume	5.1 ml/cm
Nominal dry wall thickness	30 – 50 µm

Cat.No.	Size
44173.01	30 m

Spectra/Por® 1 dialysis tubing, MWCO 6000 - 8000

RC, diameter 32 mm

HS 39173200

Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	50 mm
Nominal dry diameter	32 mm
Approx. filling volume	7.9 ml/cm
Nominal dry wall thickness	30 - 50 µm

Note:
The trial size of 5 m includes additionally one standard Spectra/Por® closure, one weighted Spectra/Por® closure and 5 opening picks.

Cat.No.	Size
44174.02	5 m
44174.01	30 m

Spectra/Por® 3 dialysis tubing, MWCO 3500
RC diameter 11.5 mm

HS 39173200

Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	18 mm
Nominal dry diameter	11.5 mm
Approx. filling volume	1.1 ml/cm
Nominal dry wall thickness	25 - 30 µm

Note:
The trial size of 5 m includes additionally one standard Spectra/Por® closure, one weighted Spectra/Por® closure and 5 opening picks.

Cat.No.	Size
44183.02	5 m
44183.01	15 m

Spectra/Por® 3 dialysis tubing, MWCO 3500
RC, diameter 29 mm

HS 39173200

Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	45 mm
Nominal dry diameter	29 mm
Approx. filling volume	6.4 ml/cm
Nominal dry wall thickness	25 - 30 µm

Cat.No.	Size
44184.01	15 m

Spectra/Por® 3 dialysis tubing, MWCO 3500
RC, diameter 34 mm

HS 39173200

Packed dry, with glycerol as protection for embrittlement, which can easily be removed by soaking in water. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	54 mm
Nominal dry diameter	34 mm
Approx. filling volume	9.3 ml/cm
Nominal dry wall thickness	25 - 30 µm

Note:
The trial size of 5 m includes additionally one standard Spectra/Por® closure, one weighted Spectra/Por® closure and 5 opening picks.

Cat.No.	Size
44185.02	5 m
44185.01	15 m

Spectra/Por® 6 dialysis tubing, MWCO 1000
RC, diameter 11.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	18 mm
Nominal dry diameter	11.5 mm
Approx. filling volume	1.1 ml/cm
Nominal dry wall thickness	60 - 65 µm

Cat.No.	Size
44192.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 1000
RC, diameter 24 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	38 mm
Nominal dry diameter	24 mm
Approx. filling volume	4.6 ml/cm
Nominal dry wall thickness	60 - 65 µm

Cat.No.	Size
44193.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 1000
RC, diameter 29 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	45 mm
Nominal dry diameter	29 mm
Approx. filling volume	6.4 ml/cm
Nominal dry wall thickness	60 - 65 µm

Cat.No.	Size
44194.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 2000
RC, diameter 11.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	18 mm
Nominal dry diameter	11.5 mm
Approx. filling volume	1.1 ml/cm
Nominal dry wall thickness	60 - 65 µm

Cat.No.	Size
44196.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 2000
RC, diameter 24 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	38 mm
Nominal dry diameter	24 mm
Approx. filling volume	4.6 ml/cm
Nominal dry wall thickness	60 - 65 µm

Cat.No.	Size
44197.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 2000
RC, diameter 29 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	45 mm
Nominal dry diameter	29 mm
Approx. filling volume	6.4 ml/cm
Nominal dry wall thickness	60 - 65 µm

Cat.No.	Size
44198.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 3500
RC, diameter 11.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	18 mm
Nominal dry diameter	11.5 mm
Approx. filling volume	1.1 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44199.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 3500

RC, diameter 29 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	45 mm
Nominal dry diameter	29 mm
Approx. filling volume	6.4 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44200.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 3500

RC, diameter 34 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	54 mm
Nominal dry diameter	34 mm
Approx. filling volume	9.3 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44201.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 8000

RC, diameter 5.1 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	8 mm
Nominal dry diameter	5.1 mm
Approx. filling volume	0.20 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44202.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 8000

RC, diameter 7.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	12 mm
Nominal dry diameter	7.5 mm
Approx. filling volume	0.45 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44203.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 8000

RC, diameter 11.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	18 mm
Nominal dry diameter	11.5 mm
Approx. filling volume	1.1 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44204.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 8000

RC, diameter 15 mm

HS 39173200

Pre-wetted (containing 0.1 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	24 mm
Nominal dry diameter	15 mm
Approx. filling volume	1.8 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44205.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 8000

RC, diameter 20.4 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	32 mm
Nominal dry diameter	20.4 mm
Approx. filling volume	3.3 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44206.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 8000

RC, diameter 25.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	40 mm
Nominal dry diameter	25.5 mm
Approx. filling volume	5.1 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44207.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 8000

RC, diameter 32 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	50 mm
Nominal dry diameter	32 mm
Approx. filling volume	7.9 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44208.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 10 000

RC, diameter 5.1 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	8 mm
Nominal dry diameter	5.1 mm
Approx. filling volume	0.20 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44209.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 10 000
RC, diameter 7.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	12 mm
Nominal dry diameter	7.5 mm
Approx. filling volume	0.45 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44210.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 10 000
RC, diameter 11.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	18 mm
Nominal dry diameter	11.5 mm
Approx. filling volume	1.1 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44211.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 10 000
RC, diameter 15 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	24 mm
Nominal dry diameter	15 mm
Approx. filling volume	1.8 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44212.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 10 000
RC, diameter 20.4 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	32 mm
Nominal dry diameter	20.4 mm
Approx. filling volume	3.3 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44213.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 10 000
RC, diameter 29 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	45 mm
Nominal dry diameter	29 mm
Approx. filling volume	6.4 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44214.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 15 000
RC, diameter 5.1 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	8 mm
Nominal dry diameter	5.1 mm
Approx. filling volume	0.20 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44215.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 15 000
RC, diameter 7.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	12 mm
Nominal dry diameter	7.5 mm
Approx. filling volume	0.45 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44216.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 15 000
RC, diameter 15 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	24 mm
Nominal dry diameter	15 mm
Approx. filling volume	1.8 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44218.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 15 000
RC, diameter 20.4 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	32 mm
Nominal dry diameter	20.4 mm
Approx. filling volume	3.3 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44219.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 15 000
RC, diameter 29 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	45 mm
Nominal dry diameter	29 mm
Approx. filling volume	6.4 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44220.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 25 000
RC, diameter 5.1 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	8 mm
Nominal dry diameter	5.1 mm
Approx. filling volume	0.20 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44221.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 25 000
RC, diameter 7.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	12 mm
Nominal dry diameter	7.5 mm
Approx. filling volume	0.45 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44222.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 25 000
RC, diameter 11.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	18 mm
Nominal dry diameter	11.5 mm
Approx. filling volume	1.1 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44223.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 25 000
RC, diameter 15 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	24 mm
Nominal dry diameter	15 mm
Approx. filling volume	1.8 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44224.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 25 000
RC, diameter 18 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	28 mm
Nominal dry diameter	18 mm
Approx. filling volume	2.5 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44225.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 25 000
RC, diameter 22 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	34 mm
Nominal dry diameter	22 mm
Approx. filling volume	3.7 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44226.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 50 000
RC, diameter 7.5 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	12 mm
Nominal dry diameter	7.5 mm
Approx. filling volume	0.45 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44228.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 50 000
RC, diameter 18 mm

HS 39173200

Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	28 mm
Nominal dry diameter	18 mm
Approx. filling volume	2.5 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44229.01	10 m

Spectra/Por® 6 dialysis tubing, MWCO 50 000
RC, diameter 22 mm

HS 39173200

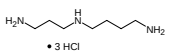
Pre-wetted (containing 0.05 % sodium azide). Ready–to-use, no soaking for removal of glycerol necessary. Contains low level of heavy metal and sulfide impurities.

Nominal dry flat width	34 mm
Nominal dry diameter	22 mm
Approx. filling volume	3.7 ml/cm
Nominal dry wall thickness	60 – 65 µm

Cat.No.	Size
44230.01	10 m

Spermidine·3HCl research grade

(N-(3-Aminopropyl)-1,4-diaminobutane·3HCl)
$C_7H_{19}N_3 \cdot 3HCl$ ♦ M_r 254.6 ♦ CAS [334-50-9]



WARNING
H315-H319-H335 ♦ EINECS 206-379-0 ♦ WGK 1 ♦ HS 29212900
Storage temperature +2 °C to +8 °C

Keep under argon.
Endogenous polyamine that inhibits neuronal nitric oxide synthase (nNOS). It binds and precipitates DNA and may be used to purify DNA binding proteins. Additionally, spermidine stimulates T4 polynucleotide kinase activity. It is involved in growth, development, and the stress response in plants.

Assay (titr.)	min. 99.0 %

Cat.No.	Size
35285.02	5 g

Spurr Embedding Medium

see 21041 Embedding Medium ERL-4221D, page 37

20x SSC Buffer molecular biology grade

WGK 1 ♦ HS 38220000

DNase/RNase not detected. 20 x concentrated aqueous solution. Commonly used buffer in transfer, blocking and hybridization in both Northern and Southern Blotting.

Composition:

NaCl (cat. no. 39781)	175.32 g/L (3 M)
Na_3-citrate x 2 H_2O (cat. no. 38642)	88.23 g/L (0.3 M)

References:

1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (pp. 7.46-7.47, 9.38-9.39, 9.50)
2. Ed. Ausubel et al., (1995) Current Protocols in Molecular Biology, Wiley & Sons, Inc. (New York, NY), Suppl. ***40***, A.2.5

Cat.No.	Size
42555.01	1 L
42555.04	10 L

Stabilizing Clamps, for HPE™-BH

HS 90272000

Pair of connective clamps for HPE™-BlueHorizon multi-decks.

Cat.No.	Size
HPE-SC	2 pieces

Stabilizing Feet, for HPE™-BH

HS 90272000

Pair of stabilizing feet for HPE™-BlueHorizon multi-decks.

Cat.No.	Size
HPE-SF	2 pieces

Steel Tray + Grid + Lid

HS 90272000

Tray for cold and hot staining, 150 mm x 300 mm x 60 mm for all 125 mm x 260 mm gels.

Cat.No.	Size
HPE-A19	1 piece

Steel Tray Large + Grid + Lid

HS 90272000

For cold and hot staining, 220 mm x 280 mm x 60 mm for all large and DALT gels.

Cat.No.	Size
HPE-A20	1 piece

Steel Tray Multi 6 for up to 6 large gels, with 6 grids

HS 90272000

The MultiStainer is a stainless steel vessel with lid designed to stain up to six gels. The staining solution is stirred using a magnetic stir bar underneath the grid to ensure efficient mixing. The gels are positioned on stainless steel grids well separated from each other for simultaneously staining. Suitable for both cold and hot Coomassie® staining and for both backed and unbacked (slab) gels up to 20 cm x 26 cm in size.

Coomassie = registered trademark of ICI Ltd.

Cat.No.	Size
HPE-A21	1 piece

Stem bromelain

see 15250 Bromelain from pineapple stem ca. 0.5 DMC-U/mg, page 20

Streptavidin agarose

see 42178 SERVA Streptavidin Agarose Resin, page 109

Streptavidin lyophil. salt-free

M_r ca. 60000 ♦ CAS [9013-20-1]

HS 35040090
Storage temperature -15 °C to -25 °C

Avidin from *Streptomyces avidinii*, isolated from fermentation filtrates by ion exchange chromatography. Activity (Biotin binding): min. 14.6 U/mg protein. Crystalline protein which binds four molecules of biotin. Because of its unique properties, streptavidin has found various applications in biological studies, including immunotherapy, immunoassays, hybridization assays, lymphocyte activation, antigen localization and affinity chromatography.

Unit definition: one unit of streptavidin will bind 1 µg of biotin.

Free binding sites (per tetramer)	min. 3
Isoelectric point:	6.5 - 7.5

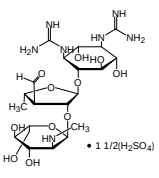
Cat.No.	Size
35490.02	5 mg

Streptomyces griseus neutral proteinase

see 33635 Pronase E from *Streptomyces griseus* min. 5.0 DMC-U/mg, page 83

Streptomycin sulfate research grade, Ph. Eur.

$C_{21}H_{39}N_7O_{12}$·1 1/2 H_2SO_4 ♦ M_r 728.7 ♦ CAS [3810-74-0]



WARNING
H302-H361 ♦ EINECS 223-286-0 ♦
WGK 2 ♦ HS 29412080

Min. 720 U/mg. Aminoglycoside antibiotic from *Streptomyces griseus*. Blocks the initiation complex and causes misreading on ribosomes in protein synthesis. Inhibits function only of the 30S subunit.

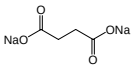
References:

1. Zierhut, G. et al. (1979) Eur. J. Biochem. ***98,*** 577-83
2. Wallace, B.J. et al. (1979) in Antibiotics Vol.***V,*** part C; Mechanism of Action of Antibacterial Agents, Springer, Berlin
3. Schwalb, C. et al. (2003) Biochemistry ***42***, 9491-7

Cat.No.	Size
35500.01	10 g
35500.02	100 g

Succinic acid·Na_2-salt research grade

(Sodium succinate)
$C_4H_4O_4$·Na_2·$6H_2O$ ♦ M_r 270.1 ♦ CAS [6106-21-4]



EINECS 205-778-7 ♦ WGK 1L ♦ HS 29171980

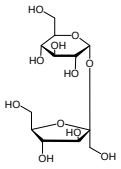
Succinic acid disodium salt hexahydrate is used as a tricarboxylic acid cycle (Krebs cycle) supplement in cell culture applications. Additionally, it is used to study x-ray crystallography, protein structural analysis and proteomics.

Assay (titr., based on dried substance)	min. 99.0 %

Cat.No.	Size
14972.02	500 g

Sucrose analytical grade

(Saccharose; Cane sugar)
$C_{12}H_{22}O_{11}$ ♦ M_r 342.3 ♦ CAS [57-50-1]



EINECS 200-334-9 ♦ HS 29400000

Free of DNA, RNA, DNase and RNase. Special grade for biochemistry and density gradient centrifugation. Tested for use in tissue culture.

Assay (HPLC)	min. 99.0 %
[α] 20 °/D (c=20 % in water)	+66 ± 1 °
A 1 cm/50 % in water	
260 nm	max. 0.3
280 nm	max. 0.2
Iron (Fe)	max. 0.5 ppm

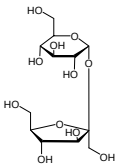
References:

1. Fraenkel-Conrat, H. & Singer, B. (1962) Biochemistry ***1,*** 120-8 (p. 127)

Cat.No.	Size
35579.02	500 g
35579.03	5 kg

Sucrose research grade

(Saccharose; Cane sugar)
$C_{12}H_{22}O_{11}$ ♦ M_r 342.3 ♦ CAS [57-50-1]



EINECS 200-334-9 ♦ HS 29400000

For gradient centrifugation, bacteriology and electrophoresis.

Assay (HPLC)	min. 98.0 %
A 1 cm/50 % in water	
260 nm	max. 0.3
280 nm	max. 0.25

Cat.No.	Size
35580.02	1 kg
35580.03	5 kg

Sulforhodamine B Cytotoxicity Assay

HS 38220000

The Sulforhodamine B (SRB) Cytotoxicity Assay, developed in 1990, remains one of the most widely used methods for *in vitro* cytotoxicity screening. It relies on the ability of SRB to bind to protein components of cells fixed to tissue culture plates. SRB is a bright-pink aminoxanthene dye with two sulfonic groups that bind to basic amino acid residues under mild acidic conditions and dissociate under basic conditions. As the binding of SRB is stoichiometric, the amount of dye extracted from stained cells is directly proportional to the cell mass.

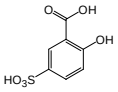
The fixed dye is solubilized and is measured photometrically at OD 540 nm with a reference filter of 690 nm. The OD values correlate with total protein content and therefore with cell number.
The assay is sensitive, simple, reproducible and more rapid with better linearity than the formazan-based assays. It has a good signal-to-noise ratio and has a stable end-point that does not require a time-sensitive measurement, as do the MTT or XTT assays.

Content: 0.4 g Sulforhodamine dye, 2x 50 ml Fixative Reagent, 2x 50 ml 10x Dye Wash Solution, 4x 50 ml SRB Solubilization Buffer

Cat.No.	Size
39906.01	1 kit

5-Sulfosalicylic acid analytical grade

(2-Hydroxy-5-sulfobenzoic acid)
$C_7H_6O_6S{\cdot}2H_2O$ ♦ M_r 254.23 ♦ CAS [5965-83-3]



DANGER
H302-H314 ♦ GGVSE/ADR 8 III UN2585 ♦ IATA 8 III UN2585 ♦ EINECS 202-555-6 ♦ WGK 2 ♦
HS 29182900

Ideal fixative in microscopy and histology, because compatible with all downstream staining procedures.
Further, it can be used as a metal scavenger due to its strong association with a range of metals. Proteins are precipitated upon complexation with 5-sulfosalicylic acid, allowing the removal of proteins prior to e.g. chromatographic analysis.

Assay	min. 99.0 %

Cat.No.	Size
35706.01	100 g

Super Co-NTA Agarose Resin

HS 38220000

Super Cobalt NTA Affinity Resin designed for affinity purification of polyhistidine tagged proteins. Cobalt ions are carefully loaded onto a 7.5 % cross-linked agarose matrix (medium particle diameter 40 µm) via a NTA coupled ligand to obtain a stable affinity matrix with the highest binding capacity for histidine residues (up to 10 mg/ml determined from *E. coli* cleared lysate). Other metal ions such as Ni^{2+}, Zn^{2+}, Fe^{3+}, and Al^{3+} can also be used resulting in different affinities. If required, the cobalt ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

Specifications
Specificity: Polyhistidine tag
Matrix: 7.5 % cross linked agarose
Coupled ligand: Nitrilotriacetic acid (NTA)
Binding capacity: 30 mg/ml
Bead size: 32 – 60 µm (40 µm medium)
Flow rate: 0.25 – 1 ml/min (optimum), 6 ml/min (max.)
Maximum pressure: 72 psi
Buffer compatibility: Common aqueous buffers from pH 2 - 14
Cleaning buffer examples: 100 % methanol, 100 % ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30 % (v/v) acetonitrile
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol at ambient temperature
Storage: Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

Cat.No.	Size
42320.01	10 ml

Super Co-NTA Agarose Resin

HS 38220000

Super Cobalt NTA Affinity Resin designed for affinity purification of polyhistidine tagged proteins. Cobalt ions are carefully loaded onto a 7.5 % cross-linked agarose matrix (medium particle diameter 40 µm) via a NTA coupled ligand to obtain a stable affinity matrix with the highest binding capacity for histidine residues (up to 10 mg/ml determined from *E.coli* cleared lysate). Other metal ions such as Ni^{2+}, Zn^{2+}, Fe^{3+}, and Al^{3+} can also be used resulting in different affinities. If required, the cobalt ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

Specifications
Specificity: Polyhistidine tag
Matrix: 7.5 % cross linked agarose
Coupled ligand: Nitrilotriacetic acid (NTA)
Binding capacity: 30 mg/ml
Bead size: 32 – 60 µm (40 µm medium)
Flow rate: 0.25 – 1 ml/min (optimum), 6 ml/min (max.)
Maximum pressure: 72 psi
Buffer compatibility: Common aqueous buffers from pH 2 - 14
Cleaning buffer examples: 100 % methanol, 100 % ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30 % (v/v) acetonitrile
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol at ambient temperature
Storage: Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8°C (long-term)

Cat.No.	Size
42321.01	25 ml

Super Co-NTA Agarose Resin

HS 38220000

Super Cobalt NTA Affinity Resin designed for affinity purification of polyhistidine tagged proteins. Cobalt ions are carefully loaded onto a 7.5 % cross-linked agarose matrix (medium particle diameter 40 µm) via a NTA coupled ligand to obtain a stable affinity matrix with the highest binding capacity for histidine residues (up to 10 mg/ml determined from *E.coli* cleared lysate). Other metal ions such as Ni^{2+}, Zn^{2+}, Fe^{3+}, and Al^{3+} can also be used resulting in different affinities. If required, the cobalt ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

Specifications
Specificity: Polyhistidine tag
Matrix: 7.5 % cross linked agarose
Coupled ligand: Nitrilotriacetic acid (NTA)
Binding capacity: 30 mg/ml
Bead size: 32 – 60 µm (40 µm medium)
Flow rate: 0.25 – 1 ml/min (optimum), 6 ml/min (max.)
Maximum pressure: 72 psi
Buffer compatibility: Common aqueous buffers from pH 2 - 4
Cleaning buffer examples: 100 % methanol, 100 % ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30 % (v/v) acetonitrile
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol at ambient temperature
Storage: Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

Cat.No.	Size
42322.01	100 ml

Super Ni-NTA Agarose Resin

HS 38220000

Super Nickel NTA Affinity Resin designed for affinity purification of polyhistidine tagged proteins. Nickel ions are carefully loaded onto a 7.5 % cross-linked agarose matrix (medium particle diameter 40 µm) via a NTA coupled ligand to obtain a stable affinity matrix with the highest binding capacity for histidine residues (up to 70 mg/ml determined from *E. coli* cleared lysate). Other metal ions such as Co^{2+}, Zn^{2+}, Fe^{3+}, and Al^{3+} can also be used resulting in different affinities.
If required, the nickel ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

Specifications
Specificity: Polyhistidine tag
Matrix: 7.5 % cross linked agarose
Coupled ligand: Nitrilotriacetic acid (NTA)
Binding capacity: 70 mg/ml
Bead size: 32 – 60 µm (40 µm medium)
Flow rate: 0.25 – 2 ml/min (optimum), 6 ml/min (max.)
Maximum pressure: 72 psi
Buffer compatibility: Common aqueous buffers from pH 2 - 14
Cleaning buffer examples: 100 % methanol, 100 % ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30 % (v/v) acetonitrile
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol at ambient temperature
Storage: Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

Cat.No.	Size
42317.01	10 ml

Super Ni-NTA Agarose Resin

HS 38220000

Super Nickel NTA Affinity Resin designed for affinity purification of polyhistidine tagged proteins. Nickel ions are carefully loaded onto a 7.5 % cross-linked agarose matrix (medium particle diameter 40 µm) via a NTA-coupled ligand to obtain a stable affinity matrix with the highest binding capacity for histidine residues (up to 70 mg/ml determined from *E.coli* cleared lysate). Other metal ions such as Co^{2+}, Zn^{2+}, Fe^{3+}, and Al^{3+} can also be used resulting in different affinities.
If required, the Nickel ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

Specifications
Specificity: Polyhistidine tag
Matrix: 7.5 % cross linked agarose
Coupled ligand: Nitrilotriacetic acid (NTA)
Binding capacity: 70 mg/ml
Bead size: 32 – 60 µm (40 µm medium)
Flow rate: 0.25 – 2 ml/min (optimum), 6 ml/min (max.)
Maximum pressure: 72 psi
Buffer compatibility: Common aqueous buffers from pH 2 - 14
Cleaning buffer examples: 100 % methanol, 100 % ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30 % (v/v) acetonitrile
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol at ambient temperature
Storage: Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

Cat.No.	Size
42318.01	25 ml

Super Ni-NTA Agarose Resin

HS 38220000

Super Nickel NTA Affinity Resin designed for affinity purification of polyhistidine tagged proteins. Nickel ions are carefully loaded onto a 7.5 % cross-linked agarose matrix (medium particle diameter 40 µm) via a NTA coupled ligand to obtain a stable affinity matrix with the highest binding capacity for histidine residues (up to 70 mg/ml determined from *E.coli* cleared lysate). Other metal ions such as Co^{2+}, Zn^{2+}, Fe^{3+}, and Al^{3+} can also be used resulting in different affinities.
If required, the nickel ions can be removed from the agarose matrix using 5 wash steps with 100 mM EDTA, and the matrix recharged with a different metal ion.

Specifications
Specificity: Polyhistidine tag
Matrix: 7.5 % cross- linked agarose
Coupled ligand: Nitrilotriacetic acid (NTA)
Binding capacity: 70 mg/ml
Bead size: 32 – 60 µm (40 µm medium)
Flow rate: 0.25 – 2 ml/min (optimum), 6 ml/min (max.)
Maximum pressure: 72 psi
Buffer compatibility: Common aqueous buffers from pH 2 - 14
Cleaning buffer examples: 100 % methanol, 100 % ethanol, 8 M urea, 6 M guanidinium hydrochloride, 30 % (v/v) acetonitrile
Shipping/delivery: 50 % (v/v) resin suspension in 20 % ethanol at ambient temperature
Storage: Equilibration buffer at 2 - 8 °C (short-term) 20 % ethanol at 2 - 8 °C (long-term)

Cat.No.	Size
42319.01	100 ml

Synperonic® F108 pract.

M_r ca. 14000 ♦ CAS [9003-11-6]

WGK 1L ♦ HS 34021900

The tensid Synperonic® F108, a polyoxyethylene-polyoxypropylene block copolymer, is an effective solubilizer for substances demonstrating pharmaceutical activity. The strongly hydrophilic non-ionic detergent demonstrates good adsorption characteristics. These particular properties may be of interest in pharmaceutical chemistry e.g. for the coating of liposomes. Synperonic® F108 is used as cleansing agent, emulsifier, dispersant, wetter, solubilizer and adjuvant for lentiviral transduction.
Polypropylene glycol (Mr ca. 3 250): poly(ethylene glycol) ca. 1:4. MP 55 - 60 °C; HLB ca. 27. More than 10 % soluble in water.
Synperonic = Registered trademark of ICI

Cat.No.	Size
35726.01	100 g
35726.02	1 kg

Synperonic® F68 pract.

M_r ca. 8300 ♦ CAS [9003-11-6]

WGK 1L ♦ HS 34021900

Polyol detergent, block-copolymer. Pluronic™ PE 6800. Poloxamer 188. Poly(propylene glycol) (M_r ca. 1 750): polyethylene glycol ca. 1:4.
MP ca. 55 °C.
Strongly hydrophilic detergent (HLB approx. 29). More than 10 % soluble in water, forms foams moderately. Used in cell culture to protect microorganisms, animal and plant cells against mechanical damage.

Synperonic = trademark of ICI, Pluronic = trademark of BASF AG

References:

1. Bentley, P.K. et al. (1989) Biotechnol. Lett. ***11,*** 111-4
2. King, A.T. et al. (1990) Biotechnol. Lett. ***12,*** 29-32
3. Murhammer, D.W. & Goochee, C.F. (1990) Biotechnol. Prog. ***6,*** 142-8

Cat.No.	Size
35724.01	100 g
35724.02	1 kg

TAE Buffer (10x) molecular biology grade

WARNING
H315-H319 ♦ WGK 2 ♦ HS 38220000

10 x concentrated aqueous solution.
TAE Buffer is used for the electrophoresis of nucleic acids. TAE has a lower buffer capacity than TBE, however linear ds DNA tends to run faster in TAE than in TBE.

Tris (cat. no. 37180)	48.46 g/L (0.4 M)
EDTA-Na_2-salt (cat. no. 11280)	3.72 g/L (0.01 M)
Acetic acid (cat. no. 45633)	12.01 g/L (0.2 M)

References:

1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (B.23, p.6.7)

Cat.No.	Size
42553.01	1 L
42553.04	10 L

TAE Buffer (50x) molecular biology grade

WARNING
H315-H319 ♦ WGK 2 ♦ HS 38220000

50x concentrated aqueous solution.
DNase/RNase not detected. TAE Buffer is used for the electrophoresis of nucleic acids. TAE has a lower buffer capacity than TBE, however linear dsDNA tends to run faster in TAE than in TBE.

Tris (cat. no. 37180)	242.3 g/L
EDTA-Na_2-salt (cat. no. 11280)	18.6 g/L
Acetic acid (cat. no. 45633)	60.05 g/L

Cat.No.	Size
42549.01	1 L

TBE Buffer (10x)

DANGER
H315-H319-H360DF ♦ WGK 1 ♦ HS 38220000

10 x concentrated aqueous solution.
TBE Buffer is widely used for the electrophoresis of nucleic acids and has a higher buffer capacity than TAE. It can be used for DNA and RNA polyacrylamide and agarose gel electrophoresis.

Composition:

Tris (cat. no. 37180)	107.78 g/L (0.89 M)
EDTA-Na_2-salt (cat. no. 11280)	7.44 g/L (0.02 M)
Boric acid (cat. no. 15165)	55.0 g/L (0.89 M)

References:

1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (B.23, p.6.7)

Cat.No.	Size
42557.01	2 x 500 ml

TBE Buffer (10x) molecular biology grade

DANGER
H315-H319-H360DF ♦ HS 38220000

10 x concentrated aqueous solution.
TBE Buffer is widely used for the electrophoresis of nucleic acids and has a higher buffer capacity than TAE. It can be used for DNA and RNA polyacrylamide and agarose gel electrophoresis.

Tris (cat. no. 37186)	107.78 g/l (0.89 M)
EDTA-Na_2-salt (cat. no. 39760)	7.44 g/l (0.02 M)
Boric acid (cat. no. 15165)	55.0 g/L (0.89 M)

References:

1. Sambrook, Fritsch, Maniatis (1989) Molecular Cloning, Cold Spring Harbor Laboratory Press (B.23, p.6.7)

Cat.No.	Size
39320.01	2,5 L

TBS Buffer (10x) sterile

(Tris-Buffered Saline)
HS 38220000

10 x concentrated aqueous solution, autoclaved.
TBS Buffer is a widely used buffer in protein detection systems like Western Blot analysis, for immunocytological and immunohistological detection, *in situ* hybridization, apoptosis assays and staining of nuclei.

Composition:

NaCl (cat. no. 30183)	1.5 M
KCl (cat. no. 26868)	30 mM
Tris (cat. no. 37180)	250 mM
pH	7.2 - 7.6

Cat.No.	Size
42596.01	1 L

TBST Buffer (10X) sterile

HS 38220000

10 x concentrated aqueous solution with 0.5 Tween 20, sterile filtered.
TBST Buffer is a widely used buffer in protein detection systems like Western Blot analysis, for immunocytological and immunohistological detection, in situ hybridization, apoptosis assays and staining of nuclei.

Cat.No.	Size
42598.01	1 L

TCA analytical grade

see 36910 Trichloroacetic acid, page 136

TCEP

see 36970 Tris-(2-carboxyethyl)phosphine hydrochloride, page 137

TE Buffer (100x)

HS 38220000

Tris-EDTA buffer is commonly used in molecular biology to re-suspend and/ or dilute purified DNA or RNA. The buffering properties of Tris and metal chelating properties of EDTA help protect DNA and RNA.
100 x concentrated aqueous solution.

Tris (cat. no. 37180)	121.14 g/L (1 M)
EDTA-Na_2-salt (cat. no. 11280)	37.22 g/L (0.1 M)
pH	8.0 ± 0.2

Cat.No.	Size
42554.01	1 L

TE Buffer (100x) pH 8.0 molecular biology grade

WGK 2 ♦ HS 38220000

Tris-EDTA buffer is commonly used in molecular biology to re-suspend and/ or dilute purified DNA or RNA. The buffering properties of Tris and metal chelating properties of EDTA help protect DNA and RNA.
DNase/RNase not detected. 100 x concentrated aqueous solution.

Tris (cat. no. 37180)	121.14 g/L (1 M)
EDTA-Na_2-salt (cat. no. 11280)	37.22 g/L (0.1 M)
pH	8.0 ± 0.2

Cat.No.	Size
39799.01	100 ml

Teepol 610 pract.

(Lensodel PB; Neodol PB)

DANGER
H315-H318 ♦ WGK 2 ♦ HS 34021190

32 % aqueous solution of sodium C9-C11 alkylethersulfates.
A dilution of 1:20 has pH 7.6. For determination of iron in serum (1). Teepol 710 originally used by the author is no longer available.

References:
1. Lauber, K. (1965) Z. Klin. Chem. ***3***, 96-9

Cat.No.	Size
35796.01	1 L
35796.02	5 L

TEMED

see 35930 N,N,N‘,N‘-Tetramethyl-ethylenediamine, page 134

TEMED

see 35925 N,N,N‘,N‘-Tetramethyl-ethylenediamine, page 134

Tergitol™ 15-S-9

HS: 34021300 ♦ CAS [68131-40-8] .

(Polyethylene glycol ether, sec-alcohol ethoxylate, sec-alcoxy polyethylene glycol)

CMC (25 °C) 52 ppm, HLB 13.3
Nonionic detergent, alternative for Triton X-100. Can be used for the isolation, purification and analysis of membrane components. Suitable for solubilization of hydrophobic proteins.

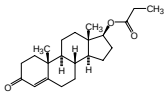
Tergitol = trademark of DOW Chemical company

Cat.No.	Size
37242.01	100 ml
37242.02	500 ml
37242.03	2,5 L

Testosterone propionate research grade

$C_{22}H_{32}O_3$ ♦ M_r 344.5 ♦ CAS [57-85-2]

DANGER
H302-H351-H360 ♦
EINECS 200-351-1 ♦ WGK 2 ♦
HS 29372900
Storage temperature +2 °C to +8 °C



Testosterone propionate is the esterified form of testosterone intended for use in clinical applications.

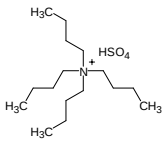
Assay (UV) 97.0 - 103.0 %

Cat.No.	Size
35805.02	5 g

Tetra-n-butylammonium·hydrogensulfate analytical grade

$C_{16}H_{36}N^+HSO_4^-$ ♦ M_r 339.5 ♦ CAS [32503-27-8]

WARNING
H315-H319 ♦ EINECS 251-068-5 ♦ WGK 2 ♦
HS 29239000



For ion-pair reversed phase chromatography of ribonucleotides.

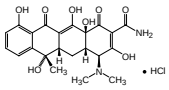
Assay (titr.) min. 98.0 %

References:
1. Hoffmann, N.E. & Liao, J.C. (1977) Anal. Chem. ***49,*** 2231- 4

Cat.No.	Size
35854.01	25 g

Tetracycline·HCl research grade, USP

(Achromycin·HCl)
$C_{22}H_{24}N_2O_8$·HCl ♦ M_r 480.9 ♦ CAS [64-75-5]



WARNING
H315-H319-H335-H361-H362 ♦
EINECS 200-593-8 ♦ WGK 1 ♦ HS 29413000

Bacteriostatic antibiotic isolated from strains of *Streptomyces,* active against gram positive and gram negative bacteria and also against intracellular microorganisms like Rickettsia and mycoplasma. Inhibits bacterial protein synthesis by preventing aminoacyl-RNA binding to the A-side of the 30S ribosomal subunit. Sample analysis (1,2). Used for the selection of resistant clones (3,4).

Assay min. 900 µg/mg

References:
1. Anderson, C.R. et al. (2005) J. Chromatogr. A ***1075***, 23-32
2. Koesukwiwat, U. et al. (2007) . J. Chromatogr. A ***1140***, 147-56
3. Guillaume, G. et al. (2000) FEMS Microbiol. Ecology ***32***, 77-85
4. Call, D.R. et al. (2003) Antimicrob. Agents Chemother. ***47***, 3290-5
5. Loftin, K.A. et al. (2005) Environm. Toxicol. Chem. ***24***, 782-8
6. Munshi, T. et al. (2013) PLOS ONE ***8(3)***: e60143

Cat.No.	Size
35866.01	10 g
35866.02	100 g

N,N,N‘,N‘-Tetramethyl-ethylenediamine for electrophoresis

(TEMED; TD)
$C_6H_{16}N_2$ ♦ M_r 116.21 ♦ CAS [110-18-9]

DANGER
H225-H302-H314-H332 ♦ EG-Index 612-103-00-3 ♦ GGVSE/ADR 3 II UN2372 ♦ IATA 3 II UN2372 ♦
EINECS 203-744-6 ♦ WGK 1L ♦ HS 29212900

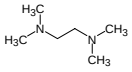
Filled under argon.
Used as an initiator along with ammonium persulfate for polymerization reactions. TEMED is responsible for the formation of free radicals from persulfate, thereby initiating the acrylamide polymerization process.
Tested as catalyst in polyacrylamide gel production.

Assay (NMR) min. 99.0 %

Cat.No.	Size
35930.01	10 ml
35930.02	25 ml

N,N,N‘,N‘-Tetramethyl-ethylenediamine

(TEMED; TD)
$C_6H_{16}N_2$ ♦ M_r 116.21 ♦ CAS [110-18-9]



DANGER
H225-H302-H314-H332 ♦ EG-Index 612-103-00-3 ♦ GGVSE/ADR 3 II UN2372 ♦ IATA 3 II UN2372 ♦
EINECS 203-744-6 ♦ WGK 1L ♦ HS 29212900

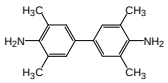
Used as an initiator along with ammonium persulfate for polymerization reactions. TEMED is responsible for the formation of free radicals from persulfate, thereby initiating the acrylamide polymerization process.

Assay (NMR) min. 98.5 %

Cat.No.	Size
35925.01	100 ml
35925.02	500 ml

3,3‘,5,5‘-Tetramethylbenzidine research grade

(TMB)
$C_{16}H_{20}N_2$ ♦ M_r 240.4 ♦ CAS [54827-17-7]



WARNING
H302-H341 ♦ EINECS 259-364-6 ♦
WGK 2 ♦ HS 29215990

Substrate for horseradish peroxidase. More sensitive than ABTS and more stable and less toxic than diaminobenzidine. See also TMB Ready-To-Use ELISA Substrate (cat.no. 37068) and SERVAColor TMB Blot Solution (cat.no. 37071).

Assay (titr.) 98.0 - 102.0 %

Cat.No.
35926.02
35926.03

Tetrazolium Red

see 37130 Triphenyltetrazolium chloride, page 137

TEV Protease, recombinant

M_r 28.000
HS 35079090
Storage Temperature: -15 °C to -25 °C

Recombinant TEV Protease is a highly site-specific cysteine protease, which is found in the Tobacco Etch Virus. Due to its sequence specificity, the enzyme is a very powerful reagent for removal of fusion tags from recombinant proteins after protein purification. The enzyme has been genetically modified to increase its activity and resistance to autolysis. It consists of the catalytic domain with an N-terminal polyhistidine tag.
It recognizes a seven amino acid sequence of the general form Glu-X-X-Gln-Gly/Ser, most commonly Glu-Asn-Leu-Tyr-Phe-Gln-Gly, and cleaves between glutamine and glycine or serine. Using the polyhistidine tag at the N-terminus of the protease the enzyme can be easily removed from the cleavage reaction by affinity chromatography following digestion.

Specific activity: 10 U/µl
Unit definition: 1 µl cleaves >80 % of 50 µg control substrate in three hours at 30 °C.

Cat.No.	Size
36401.01	1.000 U

THAM

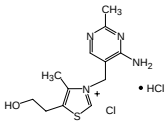
see 37190 Tris(hydroxymethyl)aminomethane, page 138

THAM

see 37181 Tris(hydroxymethyl)aminomethane, page 138

Thiamine·HCl research grade, Ph. Eur.

(Aneurin; Thiaminium chloride·hydrochloride; Vitamin B_1 hydrochloride)
$C_{12}H_{17}ClN_4OS{\cdot}HCl$ ♦ M_r 337.3 ♦ CAS [67-03-8]



EINECS 200-641-8 ♦ WGK 1L ♦ HS 29362200
Storage temperature +2 °C to +8 °C

Assay, dried (titr.) 98.5 - 101.0 %

Cat.No.	Size
36020.02	100 g

Thiazolyl blue

see 20395 3-(4,5-Dimethyl-2-thiazolyl)-2,5-diphenyl-2H-tetrazolium ·bromide, page 33

Thimerosal

see 11340 Ethylmercury thiosalicylic acid·Na-salt, page 40

2-Thiobarbituric acid analytical grade

(4,6-Dihydroxy-2-thiopyrimidine)
$C_4H_4N_2O_2S$ ♦ M_r 144.2 ♦ CAS [504-17-6]

EINECS 207-985-8 ♦ HS 29335400
Storage Temperature: +15 °C to +30 °C

Colorimetric reagent commonly used in the detection of malondialdehyde (MDA), a marker of lipid peroxidation. It forms a complex with MDA that can be quantified by colorimetric detection at 532 nm as a measure of lipid peroxidation.

Assay min. 99.0 %

Cat.No.	Size
36108.01	10 g
36108.02	100 g

Thioglycerol

see 28637 3-Mercapto-1,2-propanediol, page 67

Thiomersal

see 11340 Ethylmercury thiosalicylic acid·Na-salt, page 40

threo-1,4-Dimercapto-2,3-butanediol

see 20711 Dithiothreitol, page 34

L-Threonine research grade, Ph. Eur.

(Thr; L-2-Amino-3-hydroxybutyric acid)
$C_4H_9NO_3$ ♦ M_r 119.1 ♦ CAS [72-19-5]

EINECS 200-774-1 ♦ WGK 1L ♦ HS 29224985

Assay (titr., dried) 99.0 - 101.0 %

Cat.No.	Size
36382.03	100 g

Thrombin from bovine plasma min. 1000 units/mg protein lyophil.

(Coagulation Factor IIa)
EC 3.4.21.5 ♦ M_r ca. 37 000 ♦ CAS [9002-04-4]

WARNING
H315-H319-H335 ♦ EINECS 232-648-7 ♦ WGK 1 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

Serine protease that activates factor XIII and converts fibrinogen to fibrin by selectively cleaving Arg-Gly bonds.
Suitable for removal of a tag, e.g. GST-tag, from a recombinant fusion protein containing an accessible thrombin recognition sequence.

Unit definition: 1 NIH unit clots a standard fibrinogen solution in 15 s at 37 °C (1).

Extraneous activities: very low fibrinolytic activity

References:
1. Baughman, D. J. (1970) Methods Enzymol. ***19,*** 145-57

Cat.No.	Size
36402.01	250 U
36402.02	1.000 U
36402.03	5.000 U

TMB

see 35926 3,3‘,5,5‘-Tetramethylbenzidine, page 135

TMB Ready-To-Use ELISA Substrate

WGK 1 ♦ HS 38220000
Storage temperature +2 °C to +8 °C

One bottle reagent: contains 3,3‘,5,5‘-tetramethylbenzidine, buffer and peroxide in a single convenient, ready-to-use solution recommended for the detection of horseradish peroxidase in ELISA assays. Develops a deep blue colour that turns bright yellow when the reaction is stopped. Light sensitive. Do not freeze.

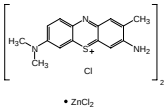
Cat.No.	Size
37068.01	100 ml

α-Toluenesulfonyl fluoride

see 32395 Phenylmethylsulfonyl fluoride, page 80

Toluidine Blue O salt

(Basic Blue 17; 2-Amino-7-dimethylamino-3-methylphenothiazinium chloride)
C.I.52040 ♦ $C_{15}H_{16}ClN_3S$ ♦ M_r 305.8 ♦ CAS [92-31-9]



EINECS 202-146-2 ♦ WGK 2L ♦ HS 29349990

Methylhomologue of Azure A. For RNA staining and RNase detection in electrophoresis (1). Stain for oligodeoxyribonucleotides (2). Stain for acidic mucopolysaccharides (proteoglycans) (3) and RNA (4).

Water (KF)	max. 10.0 %
A 1 cm/0.001 % in water λ max.	min. 0.8
λmax. 0.001 % in water	622 - 638 nm

References:

1. Wilson, C.W. (1969) Anal. Biochem. ***31,*** 506-11
2. Elson, E. & Jovin, T.M. (1969) Anal. Biochem. ***27,*** 193-204
3. Rennert, O.M. (1967) Nature ***213,*** 1133
4. Konings R.N.H. & Bloemendal, H. (1965) Eur. J. Biochem. ***7,*** 165-73

Cat.No.	Size
36693.02	25 g

Toluylene Red

see 30305 Neutral Red, page 74

Towbin Buffer for Western Blotting 10x concentrate

HS 38220000

Supplied as 10 x concentrate (0.25 M Tris and 1.92 M glycine in aqueous solution).
Working buffer: dilute 100 ml of 10x concentrate with 200 ml methanol and 700 ml distilled water.

Cat.No.	Size
42558.02	1 L

TPNH

see 30316 β-Nicotinamide adenine dinucleotide phosphate reduced ·Na_4-salt, page 75

Transferrin human (Apo) lyophil.

(Siderophilin)
M_r ca. 77 000

HS 35040090
Storage temperature -15 °C to -25 °C

Serum-free cell culture systems require a delivery format for iron. Transferrin is the preferential delivery form of iron because cells process transferrin bound iron in a physiologically appropriate way through transferrin receptors on the cell surface. Human apo-transferrin is a high affinity transferrin that can be used with a wide range of cells types. Apo-transferrin can be loaded with iron prior to use or added directly to an iron containing medium.
Iron-poor, iron (Fe) max. 0.003 %. Donor units tested for HbsAg, Anti-HCV, Anti-HIV-1, anti-HIV-2, and Syphilis by FDA approved tests.

Protein content	min. 98.0 %

References:

1. Carver, F.J. & Frieden, E. (1978) Biochemistry ***17,*** 167-72

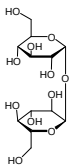
Cat.No.	Size
36760.01	50 mg

Trasylol®

see 13718 Aprotinin from bovine lung, page 12

D-Trehalose analytical grade

(α-D-Glucopyranosyl-α-D-glucopyranoside)
$C_{12}H_{22}O_{11}2H_2O$ ♦ M_r 378.3 ♦ CAS [6138-23-4]



EINECS 202-739-6 ♦ WGK 1 ♦ HS 29400000

Use as a cryoprotectant in a variety of cell freezing media.

Assay (HPLC)	min. 99.0 %
[α] 20 °C/D (c=7 % in water)	+176 ° to +180 °

Cat.No.	Size
36770.02	25 g
36770.03	100 g

Tricaine

see 12396 3-Aminobenzoic acid ethyl ester·methanesulfonate, page 10

Trichloroacetic acid analytical grade

(TCA)

$C_2HCl_3O_2$ ♦ M_r 163.4 ♦ CAS [76-03-9]

DANGER
H314-H410 ♦ EG-Index 607-004-00-7 ♦ GGVSE/ADR 8 II UN1839 ♦ IATA 8 II UN1839 ♦ EINECS 200-927-2 ♦ WGK 2L ♦ HS 29154000

Assay (titr.)	min. 99.0 %

Cat.No.	Size
36910.01	100 g
36910.03	500 g

Trichloroacetic acid, 20 % solution

(TCA)

DANGER
H314-H335-H336-H412 ♦ GGVSE/ADR 8 III UN2564 ♦ IATA 8 III UN2564 ♦ WGK 2S ♦ HS 38220000

Aqueous solution. TCA (cat. no. 36910): 200 g/L.
For protein precipitation from biological samples.
Suitable for fixation of native and IEF PAGE gels.

Cat.No.	Size
36913.02	1 L

Trichloromethane

see 39553 Chloroform, page 25

Trichloromethane

see 45627 Chloroform, page 25

Tricine

see 37196 Tris(hydroxymethyl)methylglycine, page 139

Tricine

see 37195 N-Tris(hydroxymethyl)methylglycine, page 139

Trifluoroacetic acid for LC-MS

$C_2HF_3O_2$ ♦ M_r 114.02 ♦ CAS [76-05-1]

DANGER
H314-H332-H412 ♦ GGVSE/ADR 8 I UN2699 ♦ IATA 8 I UN2699 ♦ WGK 2L ♦ HS 29159070

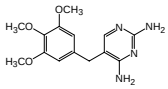
Additive for eluent phase for LC-MS.

Assay (acidimetric)	min. 99.9 %
Water (KF)	max. 0.05 %
Chloride	max. 10 ppm
Fluoride	max. 50 ppm
Sulphate	max. 10 ppm

Cat.No.	Size
45641.01	50 ml
45641.02	10x 1 ml

Trimethoprim research grade, Ph. Eur.

(5-(3,4,5-Trimethoxybenzyl)-2,4-diaminopyrimidine)
$C_{14}H_{18}N_4O_3$ ♦ M_r 290.32 ♦ CAS [738-70-5]



DANGER
H302-H360 ♦ EINECS 212-006-2 ♦ WGK 2 ♦ HS 29335995

Storage temperature +2 °C to +8 °C

Antibacterial substance; activity *in vitro* (1). Simultaneous detection with sulfamethazine by HPLC (2). Inhibitor of the bacterial enzyme dihydrofolate reductase.

Assay (titr.)	98.5 - 101.0 %

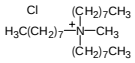
References:

1. Digranes, A. et al. (1985) Chemotherapy ***31,*** 466-71
2. Torel, J. et al. (1985) J. Chromatogr. ***323,*** 447-50

Cat.No.	Size
37049.01	5 g

Trioctylmethylammonium chloride pract.

(Methyltrioctyl ammonium chloride; Adogen 464; Aliquat® 336)



$C_{25}H_{54}ClN$ ♦ M_r 404.2 ♦ CAS [63393-96-6]

DANGER

H301-H315-H318-H410 ♦ GGVSE/ADR 6.1 III UN2810 ♦ IATA 6.1 III UN2810 ♦ EINECS 264-120-7 ♦ WGK 3S ♦ HS 29239000

Suitable for use as a phase transfer catalyst. It has a major application as a metal extraction reagent for cadmium, zinc, iron and rare earth metals.

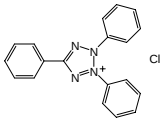
Assay min. 85.0 %

Aliquat is a registered trademark of Cognis Corporation

Cat.No.	Size
37076.02	500 ml

Triphenyltetrazolium chloride analytical grade

(TTC; Tetrazolium Red; 2,3,5-Triphenyl-2H-tetrazolium chloride)



$C_{19}H_{15}ClN_4$ ♦ M_r 334.79 ♦ CAS [298-96-4]

WARNING

H315-H319-H335 ♦ EINECS 206-071-6 ♦ HS 29339980

Triphenyltetrazolium chloride, abbreviated TTC, is used in biochemistry to measure the activity of dehydrogenases. In vital staining living cells are detected through the reduction of the colourless, water-soluble tetrazolium dye to a deep red, water-insoluble formazan via the dehydrogenases of the respiratory chain. Furthermore, TTC can be used in microbiology to distinguish between coliform and noncoliform bacteria, to measure the bacterial content of liquids in food analysis and to determine seed vitality.

Purity (HPLC) min. 99.0 %

Cat.No.	Size
37130.03	10 g
37130.02	50 g

TRIS

see 37190 Tris(hydroxymethyl)aminomethane, page 138

Tris-(2-carboxyethyl)phosphine hydrochloride

(TCEP)

$C_9H_{16}ClO_6P$ ♦ M_r 286.7 ♦ CAS [51805-45-9]

DANGER

H314 ♦ GGVSE/ADR 8 II UN3261 ♦ IATA 8 II UN3261 ♦ WGK 1 ♦ HS 29420000

Storage temperature +2 °C to +8 °C

Water-soluble and odorless reagent for selective and fast reduction of disulfides. Does not react with other functional groups of proteins. Unreactive towards many common alkylating reagents, so reductions have been carried out simultaneously with alkylations. More stable and effective than DTT. The strength of the phosphorus-oxygen bond makes the reaction irreversible. Dilute solutions of TCEP (1 mM) react rapidly at room temperature. Suitable also in mass spectrometry applications.

Assay (titr.) 98.0 – 102.0 %

References:

1. Kirkley, T.L. (1989) Anal. Biochem. ***180***, 231-36
2. Burns, J.A. (1991) J. Org. Chem. ***56***, 2648-50
3. Han, J. a. Han, G.Y. (1994) Anal. Biochem. ***220***, 5-10

Cat.No.	Size
36970.01	1 g
36970.02	5 g
36970.03	10 g

Tris-Buffered Saline

see 42596 TBS Buffer (10x), page 133

Tris-Glycine/SDS Sample Buffer

see 42527 SERVA Tris-Glycine/SDS Sample Buffer (2x), page 110

Tris-Tricine/SDS Running Buffer

see 42552 SERVA Tris-Tricine/SDS Electrophoresis Buffer (10x), page 110

Tris Buffer pH 7.5, 1 M solution molecular biology grade

WGK 2 ♦ HS 38220000

Tris(hydroxymethyl)aminomethane (Tris) of ultrapure buffer quality with very low UV absorption, suitable for biological, enzymatic and pharmaceutical research.
With a pKa of 8.1 Tris base is optimal for preparation of buffers in the physiological pH range of 7.3 to 7.5. It is used as a component in buffer solutions in numerous applications:

- Assays in molecular biology and cytology
- Extraction of proteins or nucleic acids from cells
- In situ hybridisation procedures
- Sample and running buffers for SDS-PAGE
- TAE- and TBE buffers for agarose gel electrophoresis
- Transfer buffer for Western Blotting
- Washing buffers for immunoassays

Composition:

Tris (cat. no. 37180) 121.14 g/l
pH (20 °C, adjusted with HCl) 7.5 ± 0.1

Cat.No.	Size
39791.01	1 L

Tris Buffer pH 8.0, 1 M solution molecular biology grade

WGK 2 ♦ HS 38220000

DNase, RNase, Protease not detected. The pH value of Tris buffer is temperature and concentration dependent. For Tris buffers, pH increases about 0.03 unit per degree C decrease in temperature, and decreases 0.03 - 0.05 unit per ten-fold dilution.

Composition:

Tris (cat. no. 37186) 121.14 g/l
pH (20 °C, adjusted with HCl) 8.0 ± 0.1

Cat.No.	Size
39792.01	1 L

Tris Buffer pH 8.8, 1 M solution molecular biology grade

WGK 2 ♦ HS 38220000

DNase, RNase, Protease not detected. The pH value of Tris buffer is temperature and concentration dependent. For Tris buffers, pH increases about 0.03 unit per degree C decrease in temperature, and decreases 0.03 - 0.05 unit per ten-fold dilution.

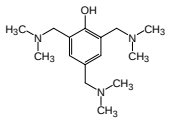
Composition:

Tris (cat. no. 37186) 121.14 g/l
pH (20 °C, adjusted with HCl) 8.8 ± 0.1

Cat.No.	Size
39794.01	1 L

2,4,6-Tris(dimethylaminomethyl)phenol pract.

(EPON accelerator DMP-30; ARALDITE® Accelerator DY 964)



$C_{15}H_{27}N_3O$ ♦ M_r 265.4 ♦ CAS [90-72-2]

WARNING

H302-H315-H319 ♦ EG-Index 603-069-00-0 ♦ EINECS 202-013-9 ♦ WGK 1L ♦ HS 29215990

Accelerator for epoxy polymerization.
Curing catalyst for epoxy resins. It is used as the accelerator in glycid ether 100 embedding in electron microscopy.

Density (20 °C) 0.96 - 1.0

Cat.No.	Size
36975.01	100 ml

Tris(hydroxymethyl)aminomethane electrophoresis grade

(TRIS; THAM; Trometamol; Tromethamine; 2-Amino-2-(hydroxymethyl)-1,3-propanediol)
$C_4H_{11}NO_3$ ♦ M_r 121.1 ♦ CAS [77-86-1]

WARNING
H315-H319 ♦ EINECS 201-064-4 ♦ HS 29221985

Ultrapure quality, tested for use in electrode buffers for PAGE and in transfer buffers for Western Blots.

Assay (titr.)	min. 99.9 %
A 1 cm 10 % in water	
235 nm	max. 0.60
260 nm	max. 0.15
280 nm	max. 0.15
430 nm	max. 0.07
Heavy metals (Pb)	max. 1 ppm
pH (5 % in water)	10.0 – 11.5

Cat.No.	Size
37181.01	500 g
37181.02	1 kg
37181.03	2,5 kg

Tris(hydroxymethyl)aminomethane analytical grade, USP

(TRIS; THAM; Trometamol; Tromethamine; 2-Amino-2-(hydroxy-methyl)-1,3-propanediol)
$C_4H_{11}NO_3$ ♦ M_r 121.1 ♦ CAS [77-86-1]

WARNING
H315-H319 ♦ EINECS 201-064-4 ♦ WGK 2L ♦ HS 29221985

Tris(hydroxymethyl)aminomethane (Tris) of ultrapure buffer quality with very low UV absorption, suitable for biological, enzymatic and pharmaceutical research.
With a pKa of 8.1 Tris base is optimal for preparation of buffers in the physiological pH range of 7.3 to 7.5. It is used as a component in buffer solutions in numerous applications:

- Assays in molecular biology and cytology
- Extraction of proteins or nucleic acids from cells
- In situ hybridisation procedures
- Sample and running buffers for SDS-PAGE
- TAE- and TBE buffers for agarose gel electrophoresis
- Transfer buffer for Western Blotting
- Washing buffers for immunoassays

Assay (titr.)	min. 99.9 %
A 1 cm/10 % in water	
235 nm	max. 0.60
260 nm	max. 0.15
280 nm	max. 0.15
430 nm	max. 0.07
Heavy metals (Pb)	max. 10 ppm
pH (5 % in water)	10.0 - 11.5

Cat.No.	Size
37180.02	100 g
37180.03	500 g
37180.05	1 kg
37180.04	2,5 kg

Tris(hydroxymethyl)aminomethane molecular biology grade

(TRIS; THAM; Tromethamine; 2-Amino-2-(hydroxymethyl)-1,3-propanediol)
$C_4H_{11}NO_3$ ♦ M_r 121.1 ♦ CAS [77-86-1]

WARNING
H315-H319 ♦ EINECS 201-064-4 ♦ WGK 2L ♦ HS 29221985

Tris(hydroxymethyl)aminomethane (Tris) of ultrapure buffer quality for sensitive assays in molecular biology with very low UV absorption, DNase, RNase, Protease not detected.
With a pKa of 8.1 Tris base is optimal for preparation of buffers in the physiological pH range of 7.3 to 7.5. It is used as a component in buffer solutions in numerous applications:

- Assays in molecular biology and cytology
- Extraction of proteins or nucleic acids from cells
- In situ hybridisation procedures
- Sample and running buffers for SDS-PAGE
- TAE- and TBE buffers for agarose gel electrophoresis
- Transfer buffer for Western Blotting
- Washing buffers for immunoassays

Assay (titr.)	min. 99.9 %
Heavy metals (Pb)	max. 10 ppm
Iron	max. 1 ppm
Arsenic (As)	max. 1 ppm
Magnesium (Mg)	max. 1 ppm

Cat.No.	Size
37186.02	500 g
37186.03	1 kg
37186.04	2,5 kg

Tris(hydroxymethyl)aminomethane research grade, USP

(TRIS; THAM; Tromethamine; 2-Amino-2-(hydroxymethyl)-1,3-propanediol)
$C_4H_{11}NO_3$ ♦ M_r 121.1 ♦ CAS [77-86-1]

WARNING
H315-H319 ♦ EINECS 201-064-4 ♦ WGK 2L ♦ HS 29221985

Buffer substance for all standard applications, suitable for preparative purposes and for chromatography.

Assay (titr.)	min. 99.0 %
A 1 cm/40 % in water	
290 nm	max. 0.2
pH (5 % in water)	10.0 - 11.5
Heavy metals (Pb)	max. 10 ppm

Cat.No.	Size
37190.01	250 g
37190.02	1 kg
37190.03	5 kg

Tris(hydroxymethyl)aminomethane·hydrochloride molecular biology grade

(Tris·hydrochloride)
$C_4H_{11}NO_3$·HCl ♦ M_r 157.6 ♦ CAS [1185-53-1]

WARNING
H315-H319-H335 ♦ EINECS 214-684-5 ♦ WGK 1 ♦ HS 29221985

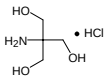
Tris(hydroxymethyl)aminomethane hydrochloride (Tris HCl) of ultrapure buffer quality for molecular biology with low UV absorption, DNase, RNase, Protease not detected. Tris/Tris HCl is a commonly used buffering system for biopharmaceutical manufacturing, cell culture, diagnostics and molecular biology.

Assay (titr.)	min. 99.0 %
A 1 cm/10 % in water	
230 nm	max. 0.1
260 nm	max. 0.05
280 nm	max. 0.03
Heavy metals (as Pb)	max. 10 ppm
pH 10 % in water	3.5 - 5.0

Cat.No.	Size
39787.01	500 g

Tris(hydroxymethyl)aminomethane·hydrochloride
research grade

(Tris·hydrochloride)
$C_4H_{11}NO_3$·HCl ♦ M_r 157.6 ♦ CAS [1185-53-1]



WARNING
H315-H319-H335 ♦ EINECS 214-684-5 ♦ WGK 1 ♦ HS 29221985

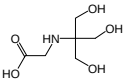
Tris(hydroxymethyl)aminomethane hydrochloride (Tris HCl) of ultrapure buffer quality for biochemistry and enzymology with low UV absorption. Tris/Tris HCl is a commonly used buffering system for biopharmaceutical manufacturing, cell culture, diagnostics and molecular biology.

Assay (titr.)	min. 99.0 %
A 1 cm/10 % in water	
230 nm	max. 0.1
260 nm	max. 0.05
280 nm	max. 0.03
Heavy metals (Pb)	max. 10 ppm
pH (10 % in water)	3.5 - 5.0

Cat.No.	Size
37192.01	100 g
37192.02	500 g

N-Tris(hydroxymethyl)methylglycine analytical grade

(Tricine)
$C_6H_{13}NO_5$ ♦ M_r 179.17 ♦ CAS [5704-04-1]



EINECS 227-193-6 ♦ WGK 1 ♦ HS 29225000

Tris(hydroxymethyl)methylglycine (Tricine) is a zwitterionic Good's buffer used in biochemistry and molecular biology. The buffer is part of the Tris buffer family and has a useful pH range of 7.4 – 8.8, pKa 20 = 8.15 (1). Tricine is optimal to separate peptides that are in the molecular weight range of 1 to 100 kDa in SDS-PAGE. It is also used in capillary zone electrophoresis, high performance liquid chromatography and ion exchange chromatography. It is the best buffer for ATP assays involving firefly luciferase and is a scavenger of hydroxyl radicals. Tricine forms a complex with Cu(II) and is therefore used in the Lowry protein assay. The buffer is a non-toxic substitute for barbital (2).

Assay (titr.)	min. 99.0 %
A 1 cm/0.1 M in water	
260 nm	max. 0.04
280 nm	max. 0.02
pH 10 % in water	4.6 - 5.2
Heavy metals (Pb)	max. 5 ppm
Iron (Fe)	max. 5 ppm

References:
1. Good, N.E. et al. (1966) Biochemistry ***5,*** 467-77
2. Monthony, J.F. et al. (1978) Clin. Chem. ***24,*** 1825-7

Cat.No.	Size
37195.03	500 g

Tris(hydroxymethyl)methylglycine electrophoresis grade

(Tricine)
$C_6H_{13}NO_5$ ♦ M_r 179.17 ♦ CAS [5704-04-1]

EINECS 227-193-6 ♦ HS 29221985

In the Tricine gel system developed by Schaegger and von Jagow (1), Tricine replaces glycine in the running buffer. This results in higher resolution of low molecular weight proteins and of smaller peptides.
Ultrapure quality, tested for use in electrode buffers for PAGE.

Assay (titr.)	min. 99.0 %
A 1 cm/0.1 M in water	
260 nm	max. 0.04
280 nm	max. 0.02
Heavy metals (Pb)	max. 5 ppm
pH (10 % in water)	4.6 – 5.2

References:
1. Schagger, H & von Jagow, G. V. (1987) Anal. Biochem. ***166***, 368 - 379

Cat.No.	Size
37196.01	100 g
37196.02	500 g

Trometamol
see 37181 Tris(hydroxymethyl)aminomethane, page 138
see 37180 Tris(hydroxymethyl)aminomethane, page 138

Tromethamine
see 37180 Tris(hydroxymethyl)aminomethane, page 138

Tromethamine
see 37181 Tris(hydroxymethyl)aminomethane, page 138

Trypsin 1:250 from porcine pancreas lyophil.
3.4.21.4 ♦ CAS [9002-07-7]

DANGER
H315-H319-H334-H335 ♦ EG-Index 647-010-00-7 ♦ EINECS 232-650-8 ♦ WGK 1 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

Serin protease mixture suitable for cell culture. Contains chymotrypsin and non-proteolytic activities. Trypsin 1:250 is a special blend of enzymes designed to maintain maximum cell viability during gentle dissociation.
Customary concentration for use: 250 mg/100 ml, pH 7 – 8.
Trypsin assay: 250 NF/USP U/mg.

Cat.No.	Size
37292.02	100 g

Trypsin inhibitor from bovine lung
see 13718 Aprotinin from bovine lung, page 12

Trypsin inhibitor from soybean min. 13 000 U/mg lyophil.
M_r ca. 22 000 ♦ CAS [9035-81-8]

EINECS 232-906-9 ♦ WGK 1 ♦ HS 35040090
Storage temperature +2 °C to +8 °C

Salt-free. Trypsin is inhibited in a molar ratio of 1:1. Inhibits as well chymotrypsin (2), plasmin, kallikrein, thrombin and other proteolytic enzymes.

Unit definition: 1 IU (inhibitor units) inhibits 1 U trypsin as defined by cleavage of 1 µmole BAEE (N-benzoyl-L-arginine ethyl ester) per minute.

References:
1. Rachis, J.J. et al. (1962) Arch. Biochem. Biophys. ***98***, 471-8
2. Bidlingmeyer, U. et al. (1972) Biochemistry ***11***, 3303-10

Cat.No.	Size
37329.01	250 mg

Trypsin MS approved, from porcine pancreas
EC 3.4.21.4 ♦ CAS [9002-07-7]

DANGER
H315-H319-H334-H335 ♦ EG-Index 647-010-00-7 ♦ EINECS 232-650-8 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

Trypsin MS approved is suitable for digestion of proteins for mass spectrometry analysis. Reductive methylation of the lysine residues of trypsin results in a stable product that is extremely resistant to autolytic degradation. Trypsin MS approved is purified by chromatography. No chymotryptic activity is detectable. Every lot is approved for use in in-gel digestion and mass spectrometry analysis. Specificity verified by digestion of oxidized B-chain of insulin.

- Each lot is QC-tested by MS
- Modified by reductive methylation
- Source: Porcine pancreas
- Premium purity, superior stability

Cat.No.	Size
37286.04	4x 25 µg
37286.01	100 µg
37286.02	150 µg
37286.03	1 mg

Trypsin Sequencing Grade, modified from porcine pancreas

EC 3.4.21.4 ♦ M_r ca. 24 000 ♦ CAS [9002-07-7]

DANGER
H315-H319-H334-H335 ♦ EG-Index 647-010-00-7 ♦ EINECS 232-650-8 ♦ WGK 1 ♦ HS 35079090
Storage temperature -15 °C to -25 °C

Modified by reductive methylation, no chymotryptic activity detectable. Specificity verified by digestion of oxidized B-chain of insulin.

Trypsin Sequencing Grade, modified, is suitable for digestion of proteins for mass spectrometry analysis. Reductive methylation of the lysine residues results in a stable product that is extremely resistant to autolytic degradation. Trypsin Sequencing Grade, modified, is purified by chromatography. No chymotryptic activity is detectable.

Cat.No.	Size
37283.01	4x 25 µg
37283.02	100 µg
37283.03	1 mg

Tryptone from casein pancreatic

HS 35040090

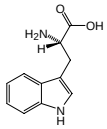
Prepared by pancreatic digest of milk protein casein. Very rich source of amino nitrogen.
Used in the production of various general media such as Tryptone Water etc. and as well in the production of sterility testing media and various diagnostic media.

Total nitrogen (TN)	min. 10 %
Amino nitrogen (AN)	min. 3.9 %
pH (2 % solution)	6.5 – 7.5

Cat.No.	Size
48647.01	250 g
48647.02	1 kg

L-Tryptophan research grade, Ph. Eur.

(Trp; L-2-Amino-3-(indolylepropionic acid))
$C_{11}H_{12}N_2O_2$ ♦ M_r 204.2 ♦ CAS [73-22-3]



EINECS 200-795-6 ♦ WGK 1L ♦ HS 29224985

Assay (titr.)	98.5 - 101.0 %

Cat.No.	Size
37422.03	100 g
37422.04	500 g

TTC

see 37130 Triphenyltetrazolium chloride, page 137

Tube Adaptor

Cat.No.	Size
HPE-NW12	1 piece

Tween® 20 molecular biology grade

(Polysorbate 20; Polyoxyethylene sorbitan monolaureate, n ca. 20)
M_r ca. 1200 ♦ CAS [9005-64-5]

EINECS 500-018-3 (NLP) ♦ WGK 1L ♦ HS 34021300

DNase/RNase not detected. HLB 16.7.

Heavy metals	max. 10 ppm
Water	max. 3.0 %

® *Registered trademark of ICI, Ltd.*

Cat.No.	Size
39796.01	100 ml

Tween® 20 pure, Ph. Eur., USP

(Polysorbate 20; Polyoxyethylene sorbitan monolaureate, n ca. 20)
M_r ca. 1200 ♦ CAS [9005-64-5]

EINECS 500-018-3 ♦ WGK 1L ♦ HS 34021300

HLB 16.7. Non-ionic surfactant that effectively suppresses unspecific reactions between antibodies, antigens and other molecules (1, 2). Also used as a solubilizer in membrane chemistry (3) and for density centrifugation of viruses (4).

Free dioxane	max. 1 ppm
Free ethylene oxide	max. 1 ppm
Heavy metals	max. 10 ppm
Non animal origin	

® *Registered trademark of ICI, Ltd.*

References:

1. Thean, E.T. & Toh, B.H. (1989) Anal. Biochem. ***177,*** 256-8
2. Tovey, E.R. et al. (1989) Electrophoresis ***10,*** 243-9
3. Lund, S. et al. (1989) J. Biol. Chem. ***264,*** 4907-15
4. Boeye, A. & DeRees, A. (1989) Arch. Virol. ***107,*** 77-84

Cat.No.	Size
37470.01	500 g
37470.02	5 kg

Tween® 80 pure, Ph. Eur., USP/NF

(Polysorbate 80; Polyoxyethylene sorbitan monooleate, n ca. 20)
M_r ca. 1300 ♦ CAS [9005-65-6]

EINECS 500-019-9 ♦ WGK 1L ♦ HS 34021300

HLB 15.0; tested for use in tissue culture.

Density (25 °C)	1.06 - 1.09
Ethylene oxide value	max. 1 ppm
1,4-Dioxane content	max. 10 ppm
Heavy metals	max. 10 ppm
Non animal origin	

® *Registered trademark of ICI, Ltd.*

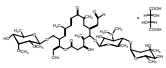
References:

1. Sato, M. et al. (1989) Int. J. Biochem. ***21,*** 751-4
2. Masaki, S. et al. (1990) Microbiol. Immunol. ***34,*** 653-63
3. Okuno, S. & Fujisawa, H. (1990) Biochim. Biophys. Acta ***1038***, 204-8

Cat.No.	Size
37475.01	500 g
37475.02	5 kg

Tylosine·tartrate solution (100x) sterile filtered

(Anti-PPLO-agent)
HS 38220000
Storage temperature -15 °C to -25 °C



Macrocyclic antibiotic with large lactone ring. Inhibits bacterial protein synthesis at the ribosomal 50S-subunit. Acts bacteriostatic, in higher concentrations as well bactericidal. Active against gram positive bacteria and mycoplasma. Enhances immune response in chicken.

References:

1. Stewart, S.M. et al. (1969) J. Med. Microbiol. ***2,*** 287-92.
2. Baba, T. et al. (1998) Poult. Sci. ***77***, 1306-11
3. Loftin, K.A. et al. (2005) Environm. Toxicol. Chem. ***24***, 782-8

Cat.No.	Size
47988.01	25 ml

Uranyl acetate·2H_2O research grade

$(CH_3COO)_2UO_2 \cdot 2H_2O$ ♦ M_r 424.2 ♦ CAS [6159-44-0]

DANGER
H300-H330-H373-H411 ♦ MAK/TRK 0,25 mg/m³ calculated as uran ♦ EG-Index 092-002-00-3 ♦ GGVSE/ADR 7 UN2910 ♦ IATA 7 UN2910 ♦ WGK 3L ♦ HS 28443019

For determination of unbound radioactive iodine in radiolabelled glycoproteins. For positive staining in electron microscopy.

Assay (titr.)	min. 98.0 %
Chloride (Cl)	max. 0.003 %
Lead (Pb)	max. 0.002 %

Export restricted. Please ask for details.

References:

1. Boratyniski, J. (1987) Anal. Biochem. ***160,*** 35-8

Cat.No.	Size
77870.02	5 g
77870.01	25 g

Urea analytical grade, Ph. Eur., USP

(Carbamide; Carbonyl diamide)
CH_4N_2O ♦ M_r 60.06 ♦ CAS [57-13-6]

EINECS 200-315-5 ♦ WGK 1L ♦ HS 29241900

A chaotropic agent used for the denaturation of proteins and as a mild solubilization agent for insoluble or denatured proteins. May be used with guanidine hydrochloride and dithiothreitrol (DTT) in the refolding of denatured proteins into their native or active form.
In denaturing isoelectric focusing and 2D-electrophoresis utilized to solubilize and denature proteins.
Suitable for pharmaceutical research

Assay (from N)	99.0 - 100.5 %
Heavy metals (Pb)	< 10 ppm

Cat.No.	Size
24524.02	1 kg
24524.03	5 kg

Urea electrophoresis grade

(Carbamide; Carbonyl diamide)
CH_4N_2O ♦ M_r 60.06 ♦ CAS [57-13-6]

EINECS 200-315-5 ♦ HS 29241900

For complete solubilization and unfolding of proteins, urea is included in the sample solution for 2D PAGE at a concentration of at least 8 M. It is also used to denature nucleic acids in sequencing gels. Application-tested quality.

Assay (from N)	99.0 - 100.5 %
Heavy metals	< 10 ppm

Cat.No.	Size
24525.02	1 kg

Urea molecular biology grade

(Carbamide; Carbonyl diamide)
CH_4N_2O ♦ M_r 60.06 ♦ CAS [57-13-6]

EINECS 200-315-5 ♦ WGK 1L ♦ HS 29241900

Urea is a chaotropic agent used for the denaturation of proteins and as a mild solubilization agent for insoluble or denatured proteins. It is used in denaturing polyacrylamide gel electrophoresis (urea PAGE) for DNA sequencing and separation of oligos and RNA. Quality suitable for all molecular biology applications, DNase/RNase not detected.

Assay (from N)	99.0 - 100.5 %
A 1 cm/8 M in water	
260 nm	< 0.15
280 nm	< 0.1
Heavy metals (as Pb)	< 10 ppm
Iron (Fe)	max 0.5 ppm

Cat.No.	Size
39305.01	500 g

Urease from jack bean min. 220 U/mg lyophil.

(Urea amidohydrolase)
EC 3.5.1.5 ♦ M_r ca. 545 000 ♦ CAS [9002-13-5]

DANGER
H334 ♦ EINECS 232-656-0 ♦ HS 35079090
Storage temperature +2 °C to +8 °C

For the determination of urea (1).
Urease is involved in purine metabolism and the urea cycle. It hydrolyzes urea to produce ammonia and carbon dioxide.

Unit definition: 1 U catalyzes the formation of 1 µmole ammonia per minute at 25 °C, pH 8.0 from urea, determined in a coupled reaction with GLDH (2).

Activity in other units: If the unit of activity is defined in terms of 1 µmole urea decomposed per minute, this preparation would contain at least 90 units/mg.

References:

1. Kerscher, L. & Ziegenhorn, J. (1985) Methods of Enzymatic Analysis (Bergmeyer, H.U., ed.) 3rd Ed. Vol. ***8,*** p. 444-53
2. Kaltwasser, H. & Schlegel, H.G. (1966) Anal. Biochem. ***16,*** 132-8

Cat.No.	Size
37799.01	100 mg
37799.03	1 g

UV Filter (58 mm) for DIAS-III

HS 90275000

Cat.No.	Size
UV-58	1 piece

UV Protection Lid, for SERVA UV Table CII

HS 90275000

Cat.No.	Size
UVPL-CII	1 piece

UV to Blue Light Converter Screen

HS 90278017

Converter plate for conversion of UV light into blue light. The combination of this low-cost plate with a UV transilluminator replaces an extra blue light table, e.g. for the documentation of SERVA DNA Stain Clear G stained DNA gels.
Outer dimensions: 33.5 cm x 27 cm
Filter glass dimensions: 29 cm x 24,5 cm

Cat.No.	Size
UV-BLC	1 piece

UV to White Light Converter Screen

HS 90278017

Converter plate for conversion of UV light into visible light. The combination of this low-cost plate with a UV transilluminator replaces an extra white light table, e.g. for the documentation of Coomassie-stained protein gels or autoradiographs.
Outer dimensions: 33.5 cm x 27 cm
Filter glass dimensions: 29 cm x 24.5 cm

Cat.No.	Size
UV-WLC	1 piece

UV Transparent Gel Tray, for BM-200, 15 cm x 15 cm

Gel width 15 cm

HS 90279050

UV transparent gel tray (15 x 15 cm) for BlueMarine™ 200.
Incl. 2 gel casting gates for leak-free sealing.

Cat.No.	Size
BM-200-15-2	1 piece

UV Transparent Gel Tray, for BM-200, 20 cm x 15 cm

Gel width 15 cm

HS 90279050

UV transparent gel tray (15 x 20 cm) for BlueMarine™ 200. Incl. 2 gel casting gates for leak-free sealing.

Cat.No.	Size
BM-200-20-2	1 piece

UV Transparent Gel Tray, for BlueMarine 100, 7 cm x 10 cm, Gel width 7 cm

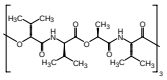
HS 90271090

UV transparent gel tray (7 x 10 cm) for BlueMarine™ 100. Incl. 2 gel casting gates for leak-free sealing.

Cat.No.	Size
BM-100-21	1 piece

Valinomycin research grade

(cyclo(Lac-Val-D-Hiv-D-Val-Lac-Val-D-Hiv-D-Val-Lac-Val-D Hiv-D-Val))



$C_{54}H_{90}N_6O_{18}$ ♦ M_r 1111.3 ♦ CAS [2001-95-8]

DANGER

H300-H310-H330 ♦ GGVSE/ADR 6.1 I UN2811 ♦ IATA 6.1 I UN2811

EINECS 217-896-6 ♦ WGK 3L ♦ HS 29419000

Cyclopeptide-antibiotic. Affects potassium permeability of biomembranes.
D-HIV = Hydroxy-isovaleric acid, Lac = lactic acid.

Assay (HPLC) 93.0 - 100.0 %

References:

1. Höfer, M. & Pressman, B.C. (1966) Biochemistry ***5,*** 3919-25
2. Davidson, G.A. & Berman, M.C. (1985) J. Biol. Chem. ***260,*** 7325
3. Eytan, G.D. et al. (1990) J. Biol. Chem. ***265,*** 12949

Cat.No.	Size
38076.02	10 mg

Versene disodium

see 11280 Ethylenediamine tetraacetic acid·Na_2-salt, page 39

Videoprinter Thermopaper

HS 90275000

Cat.No.	Size
K-65HM	4 rolls

VISKING dialysis tubing, MWCO 12 000 - 14 000

RC, diameter 6 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	ca. 25 Å
Nominal dry flat width	10 mm
Nominal dry diameter	6 mm
Approx. filling volume	0.3 ml/cm
Nominal dry wall thickness	51 µm

Cat.No.	Size
44104.01	5 m
44104.02	30 m

VISKING dialysis tubing, MWCO 12 000 - 14 000

RC, diameter 16 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	ca. 25 Å
Nominal dry flat width	25 mm
Nominal dry diameter	16 mm
Approx. filling volume	2.0 ml/cm
Nominal dry wall thickness	20 µm

Cat.No.	Size
44110.01	5 m
44110.02	30 m
44110.04	152 m

VISKING dialysis tubing, MWCO 12 000 - 14 000

RC, diameter 21 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	ca. 25 Å
Nominal dry flat width	34 mm
Nominal dry diameter	21 mm
Approx. filling volume	3.4 ml/cm
Nominal dry wall thickness	23 µm

Cat.No.	Size
44114.01	5 m
44114.02	30 m

VISKING dialysis tubing, MWCO 12 000 - 14 000

RC, diameter 28 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	ca. 25 Å
Nominal dry flat width	44 mm
Nominal dry diameter	28 mm
Approx. filling volume	6.4 ml/cm
Nominal dry wall thickness	20 µm

Cat.No.	Size
44120.01	5 m
44120.02	30 m
44120.05	152 m

VISKING dialysis tubing, MWCO 12 000 - 14 000

RC, diameter 49 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

Pore diameter	ca. 25 Å
Nominal dry flat width	77 mm
Nominal dry diameter	49 mm
Approx. filling volume	18 ml/cm
Nominal dry wall thickness	41 µm

Cat.No.	Size
44126.02	15 m
44126.03	152 m

VISKING dialysis tubing, MWCO 12 000 - 14 000

RC, diameter 75 mm

HS 39173200

Packed dry, made from regenerated cellulose (RC). With glycerol as protection for embrittlement, which can be easily removed by soaking in water. Contain low level of heavy metal and sulfide impurities. Highly resistant against chemicals, suitable for pH range 2 – 12 and temperatures 4 – 60 °C.

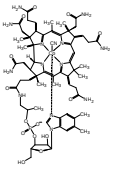
Pore diameter	ca. 25 Å
Nominal dry flat width	117 mm
Nominal dry diameter	75 mm
Approx. filling volume	45.8 ml/cm
Nominal dry wall thickness	74 µm

Cat.No.	Size
44130.01	5 m
44130.02	15 m
44130.03	152 m

Vitamin B_1 hydrochloride

see 36020 Thiamine·HCl, page 135

Vitamin B_{12} cryst. pure, Ph. Eur., USP



(Cyanocobalamin; Extrinsic Factor; Antianemic vitamin B)
$C_{63}H_{88}N_{14}O_{14}PCo$ ♦ M_r 1355.4 ♦ CAS [68-19-9]

EINECS 200-680-0 ♦ WGK 1L ♦ HS 29362600

Vitamin, which works as a coenzyme in fat, carbohydrate and protein metabolism. It is required for growth, genetic stability and survival of cells in vitro and is therefore a component of many classical and serum-free formulations.
Non-animal origin.
Storage temperature +2 °C to +8 °C

Assay (UV), dried	96.0 - 100.5 %

Protect from light!

Cat.No.	Size
38310.02	500 mg

Vitamin C

see 14030 L-Ascorbic acid, page 13

Vitamin H

see 15060 (+)-Biotin, page 15

Water demineralized, sterile molecular biology grade

HS 28530010

DNase/RNase not detected. Autoclaved.

Cat.No.	Size
39800.01	500 ml

Water DEPC (0.1 %) treated, sterile molecular biology grade

HS 28530010

DNase/RNase not detected. Autoclaved.

Cat.No.	Size
39798.03	500 ml

Water for UHPLC-MS

CAS [7732-18-5]

EINECS 231-791-2 ♦ HS 28539010

Special grade for excellent performance in ultra high performance liquid chromatography-tandem mass spectrometry (UHPLC-MS/MS).

Conductivity	≤ 0.09 µS/cm
Total organic carbon	≤ 10 ppb
Acidity	≤ 0.0002 %
Alkalinity	≤ 0.00005 %
Residue on evaporation	≤ 0.4 ppm

Transmittance

200 nm	min. 95.0 %
230 nm	min. 99.0 %

UHPLC gradient peak

210 nm	max. 2 mAU
Drift at 210 nm	max. 8 mAU
Drift at 254 nm	max. 3 mAU

Test LC-MS TIC (50 – 2000 m/z)
ES I(+)

Sensitive impurities (reserpine)	max. 30 ppb

Metal Compounds

Na/K/Ca	max. 50 ppb
Al/Fe/Mg	max. 20 ppb

Microfiltered, 0.1 µm

Cat.No.	Size
45637.01	2,5 L

White Light Top Light for DIAS-III

HS 90275000

Cat.No.	Size
WL-II	1 piece

X-Gal

see 15243 5-Bromo-4-chloro-3-indolyl-β-D-galactoside (X-Gal), page 21

Xpress Blotting Buffer (10x) for Western Blotting

HS 38220000

The Xpress Blotting Buffer is a ready-to-use buffer reagent for the fast and efficient semi-dry transfer of high and low molecular weight proteins in only 15 min. The buffer system is compatible with nitrocellulose and PVDF membranes. Sufficient for at least 40 vertical mini SDS PAGE gels.

Cat.No.	Size
42661.01	1 L

Xpress Blotting Kit for Western Blotting

HS 38220000

Kit for fast Semi-Dry Western Blotting of 10 vertical mini SDS PAGE gels.
SERVA Xpress Blotting Buffer is a ready-to-use buffer reagent for the fast and efficient semi-dry transfer of high and low molecular weight proteins in only 15 min.
The use of SERVA's newly developed Blotting Fleece instead of blotting paper allows an efficient, undisturbed transfer in a short time.The buffer system is compatible with nitrocellulose and PVDF membranes.

Content:
250 ml 10x SERVA Xpress Blotting Buffer
20x Blotting Fleece sheets (size 80 mm x 85 mm)
10x Connection Paper (size 80 mm x 85 mm)

Cat.No.	Size
42662.01	1 kit

Xpress NC Blotting Kit for Western Blotting

HS 38220000

Kit for fast Semi-Dry Western Blotting of 10 vertical mini SDS PAGE gels on nitrocellulose membrane.
SERVA Xpress Blotting Buffer is a ready-to-use buffer reagent for the fast and efficient semi-dry transfer of high and low molecular weight proteins in only 15 min. The use of SERVA's newly developed Blotting Fleece instead of blotting paper allows an efficient, undisturbed transfer in a short time.
The pre-cut nitrocellulose membrane sheets show high protein binding, low background and improved stability for easier handling and re-probing.

Content:
250 ml 10x SERVA Xpress Blotting Buffer
20x Blotting Fleece sheets (size 80 mm x 85 mm)
10x Connection Paper (size 80 mm x 85 mm)
10x Nitrocellulose membrane sheets, pore size 0.2 µm (size 80 mm x 85 mm)

Cat.No.	Size
42663.01	1 kit

Xpress PVDF Blotting Kit for Western Blotting

HS 38220000

Kit for fast Semi-Dry Western Blotting of 10 vertical mini SDS PAGE gels on PVDF membrane.
SERVA Xpress Blotting Buffer is a ready-to-use buffer reagent for the fast and efficient semi-dry transfer of high and low molecular weight proteins in only 15 min. The use of SERVA's newly developed Blotting Fleece instead of blotting paper allows an efficient, undisturbed transfer in a short time.
The pre-cut PVDF membrane sheets with the pore size of 0.2 µm show high protein binding and low background.

Content:
250 ml 10x SERVA Xpress Blotting Buffer
20x Blotting Fleece sheets (size 80 mm x 85 mm)
10x Connection Paper (size 80 m x 85 mm)
10x PVDF membrane sheets, pore size 0.2 µm (size 80 x 85 mm)

Cat.No.	Size
42664.01	1 kit

Xpress Micro Dialyzer MD100, MWCO 2 kDa 1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46088.01	8 pieces

Xpress Micro Dialyzer MD100, MWCO 2 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46089.01	1 kit

Xpress Micro Dialyzer MD100, MWCO 3.5 kDa

single fingers in microtube

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 single microdialysis devices in 2 ml microcentrifuge tube

Cat.No.	Size
46100.01	12 pieces

Xpress Micro Dialyzer MD100, MWCO 3.5 kDa 1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46103.01	8 pieces

Xpress Micro Dialyzer MD100, MWCO 3.5 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – detachable 8-device strips, scalable from 1 to 96 samples
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46104.01	1 kit

Xpress Micro Dialyzer MD100, MWCO 6 - 8 kDa

single fingers in microtube

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 single microdialysis devices in 2 ml microcentrifuge tube

Cat.No.	Size
46106.01	12 pieces

Xpress Micro Dialyzer MD100, MWCO 6 - 8 kDa 1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46109.01	8 pieces

Xpress Micro Dialyzer MD100, MWCO 6 - 8 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – detachable 8-device strips, scalable from 1 to 96 samples
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46110.01	1 kit

Xpress Micro Dialyzer MD100, MWCO 12 - 14 kDa

single fingers in microtube

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 single microdialysis devices in 2 ml microcentrifuge tube

Cat.No.	Size
46112.01	12 pieces

Xpress Micro Dialyzer MD100, MWCO 12 - 14 kDa

1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46115.01	8 pieces

Xpress Micro Dialyzer MD100, MWCO 12 - 14 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in a. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46116.01	1 kit

Xpress Micro Dialyzer MD100, MWCO 20 kDa 1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46090.01	8 pieces

Xpress Micro Dialyzer MD100, MWCO 20 kDa
12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46091.01	1 kit

Xpress Micro Dialyzer MD100, MWCO 140 kDa 1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46092.01	8 pieces

Xpress Micro Dialyzer MD100, MWCO 140 kDa
12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46093.01	1 kit

Xpress Micro Dialyzer GridKit 48 MD100, MWCO 3.5 kDa
6 cartridges in deep well plate incl. grid

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

Content: 6 detachable 8-microdialysis device strips, one 48-well deep well plate (5.0 ml volume), one grid, one lid

Cat.No.	Size
46105.01	1 kit

Xpress Micro Dialyzer GridKit 48 MD100, MWCO 6 - 8 kDa 6 cartridges in deep well plate incl. grid

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

Content: 6 detachable 8-microdialysis device strips, one 48-well deep well plate (5.0 ml volume), one grid, one lid

Cat.No.	Size
46111.01	1 kit

Xpress Micro Dialyzer GridKit 48 MD100, MWCO 12 - 14 kDa 6 cartridges in deep well plate incl. grid

HS 39173300

The Xpress Micro Dialyzer MD100 is a ready-to-use dialysis system for sample volumes from 10 µl to 100 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 25 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

Content: 6 detachable 8-microdialysis device strips, one 48-well deep well plate (5.0 ml volume), one grid, one lid

Cat.No.	Size
46117.01	1 kit

Xpress Micro Dialyzer MD300, MWCO 2 kDa 1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46094.01	8 pieces

Xpress Micro Dialyzer MD300, MWCO 2 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46095.01	1 kit

Xpress Micro Dialyzer MD300, MWCO 3.5 kDa

single fingers in microtube

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 single microdialysis devices in 2 ml microcentrifuge tube

Cat.No.	Size
46118.01	12 pieces

Xpress Micro Dialyzer MD300, MWCO 3.5 kDa

1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46119.01	8 pieces

Xpress Micro Dialyzer MD300, MWCO 3.5 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46120.01	1 kit

Xpress Micro Dialyzer MD300, MWCO 6 - 8 kDa

single fingers in microtube

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 single microdialysis devices in 2 ml microcentrifuge tube

Cat.No.	Size
46122.01	12 pieces

Xpress Micro Dialyzer MD300, MWCO 6 - 8 kDa 1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46123.01	8 pieces

Xpress Micro Dialyzer MD300, MWCO 6 - 8 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible - plate formate. conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46124.01	1 kit

Xpress Micro Dialyzer MD300, MWCO 12 - 14 kDa

single fingers in microtube

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 12 single microdialysis devices in 2 ml microcentrifuge tube

Cat.No.	Size
46126.01	12 pieces

Xpress Micro Dialyzer MD300, MWCO 12 - 14 kDa

1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acid and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46127.01	8 pieces

Xpress Micro Dialyzer MD300, MWCO 12 - 14 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46128.01	1 kit

Xpress Micro Dialyzer MD300, MWCO 20 kDa 1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46096.01	8 pieces

Xpress Micro Dialyzer MD300, MWCO 20 kDa
12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46097.01	1 kit

Xpress Micro Dialyzer MD300, MWCO 140 kDa 1 cartridge

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Compatible with 96-well deep well plates and 8-channel multipipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46098.01	8 pieces

Xpress Micro Dialyzer MD300, MWCO 140 kDa
12 cartridges in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Flexible – dialysis against small volumes in micro tubes or microtiter plates and against larger volumes (with floating device) possible
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46099.01	1 kit

Xpress Micro Dialyzer GridKit 48 MD300, MWCO 3.5 kDa 6 cartridges in deep well plate incl. grid

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

Content: 6 detachable 8-microdialysis device strips, one 48-well deep well plate (5.0 ml volume), one grid, one lid

Cat.No.	Size
46121.01	1 kit

Xpress Micro Dialyzer GridKit 48 MD300, MWCO 6 - 8 kDa 6 cartridges in deep well plate incl. grid

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. rebuffering of your samples
- Secure grip of the Micro Dialyzer

Content: 6 detachable 8-microdialysis device strips, one 48-well deep well plate (5.0 ml volume), one grid, one lid

Cat.No.	Size
46125.01	1 kit

Xpress Micro Dialyzer GridKit 48 MD300, MWCO 12 - 14 kDa 6 cartridges in deep well plate incl. grid

HS 39173300

The Xpress Micro Dialyzer MD300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- More space for pipetting of the dialysis buffer
- Comfortable buffer exchange, e.g. re-buffering of your samples
- Secure grip of the Micro Dialyzer

Content: 6 detachable 8-microdialysis device strips, one 48-well deep well plate (5.0 ml volume), one grid, one lid

Cat.No.	Size
46129.01	1 kit

Xpress Equilibrium Dialyzer ED300, MWCO 3.5 kDa
1 cartridge

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46164.01	8 pieces

Xpress Equilibrium Dialyzer ED300, MWCO 3.5 kDa
12 cartridges in deep well plate

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46165.01	1 kit

Xpress Equilibrium Dialyzer ED300, MWCO 6 - 8 kDa
1 cartridge

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loding and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46166.01	8 pieces

Xpress Equilibrium Dialyzer ED300, MWCO 6 - 8 kDa
12 cartridges in deep well plate

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46167.01	1 kit

Xpress Equilibrium Dialyzer ED300, MWCO 12 - 14 kDa
1 cartridge

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46168.01	8 pieces

Xpress Equilibrium Dialyzer ED300, MWCO 12 - 14 kDa
12 cartridges in deep well plate

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46169.01	1 kit

Xpress Equilibrium Dialyzer ED300, MWCO 20 kDa

1 cartridge

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46170.01	8 pieces

Xpress Equilibrium Dialyzer ED300, MWCO 20 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46171.01	1 kit

Xpress Equilibrium Dialyzer ED300, MWCO 140 kDa

1 cartridge

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 1 detachable 8-microdialysis device strip

Cat.No.	Size
46172.01	8 pieces

Xpress Equilibrium Dialyzer ED300, MWCO 140 kDa

12 cartridges in deep well plate

HS 39173300

The Xpress Equilibrium Dialyzer ED300 is a ready-to-use dialysis system for sample volumes from 50 µl to 300 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device consists of a U-shaped capillary made from polypropylene with graduation marks in 75 µl increments on both sides. Optimized design for fast and easy equilibrium dialysis.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis – desalting of nucleic acids and proteins in ca. 30 min
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Ideally suited for dialysis in liquid handling systems
- Automation compatible – plate format conforms to the SBS Microplate Standard

Content: 12 detachable 8-microdialysis device strips, one 96-well deep well plate (2.2 ml volume)

Cat.No.	Size
46173.01	1 kit

Xpress Mini Dialyzer MD1000, MWCO 2 kDa

single fingers in tube

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes

Cat.No.	Size
46144.01	6 pieces

Xpress Mini Dialyzer MD1000, MWCO 2 kDa

48 single fingers in deep well plate

HS 39173300

The Xpress Micro Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

Cat.No.	Size
46145.01	1 kit

Xpress Mini Dialyzer MD1000, MWCO 3.5 kDa
single fingers in tube

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes

Cat.No.	Size
46130.01	6 pieces

Xpress Mini Dialyzer MD1000, MWCO 3.5 kDa
single fingers in tube plus 6 tubes

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes, 6 additional tubes, 1 forceps

Cat.No.	Size
46131.01	6 pieces

Xpress Mini Dialyzer MD1000, MWCO 3.5 kDa
48 single fingers in deep well plate

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

Cat.No.	Size
46132.01	1 kit

Xpress Mini Dialyzer MD1000, MWCO 6 - 8 kDa
single fingers in tube

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes

Cat.No.	Size
46133.01	6 pieces

Xpress Mini Dialyzer MD1000, MWCO 6 -8 kDa
single fingers in tube plus 6 tubes

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes, 6 additional tubes, 1 forceps

Cat.No.	Size
46134.01	6 pieces

Xpress Mini Dialyzer MD1000, MWCO 6 - 8 kDa
48 single fingers in deep well plate

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

Cat.No.
46135.01

Xpress Mini Dialyzer MD1000, MWCO 12 - 14 kDa

single fingers in tube

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes

Cat.No.	Size
46136.01	6 pieces

Xpress Mini Dialyzer MD1000, MWCO 12 - 14 kDa

single fingers in tube plus 6 tubes

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes, 6 additional tubes, 1 forceps

Cat.No.	Size
46137.01	6 pieces

Xpress Mini Dialyzer MD1000, MWCO 12 - 14 kDa

48 single fingers in deep well plate

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

Cat.No.	Size
46138.01	1 kit

Xpress Mini Dialyzer MD1000, MWCO 20 kDa

single fingers in tube

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 25 ml skirted, conical tubes

Cat.No.	Size
46146.01	6 pieces

Xpress Mini Dialyzer MD1000, MWCO 20 kDa

48 single fingers in deep well plate

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

Cat.No.	Size
46147.01	1 kit

Xpress Mini Dialyzer MD1000, MWCO 140 kDa

single fingers in tube

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 6 single Mini Dialyzer in 28 ml skirted, conical tubes

Cat.No.	Size
46148.01	6 pieces

Xpress Mini Dialyzer MD1000, MWCO 140 kDa

48 single fingers in deep well plate

HS 39173300

The Xpress Mini Dialyzer MD1000 is a ready-to-use dialysis system for sample volumes from 150 µl to 1000 µl. Short diffusion distance and large surface area allow very rapid dialysis. The device has two capillary channels, one for sample loading and one for filling of the dialysis buffer. The Mini Dialyzer MD1000 is easily coupled to a strip by a key/slot mechanism.

- High-quality regenerated cellulose membranes
- Efficient and fast dialysis, easy change of dialysis buffer
- Up to 98 % sample recovery
- Easy handling – sample loading and retrieval can be done with standard laboratory micropipettes
- Scalable from 1 to 48 samples
- Compatible with standard 48-well deep well plates

Content: 48 single Mini Dialyzer in one 48-well deep well plate (5.0 ml volume)

Cat.No.	Size
46149.01	1 kit

Xpress Dialysis Box

HS 39173300

With the Xpress Dialysis Box, up to 96 samples can be dialysed against a common buffer reservoir. Compared to the use of deep well plates, a larger buffer volume is achieved. This allows dialysis efficiency and speed to be increased.

- Suitable for Xpress Dialyzer MD100, MD300, ED300, MD1000
- Compatible with SBS microplate format (12x 8 samples)
- Scalable up to 96 samples
- Removable inserts with 48 or 96 grid
- Common large buffer reservoir for increased dialysis speed and efficiency
- Suitable for multi-channel pipettes and for use in automatic pipetting machines
- Dialysis cartridges, inserts and dialysis box can be fixed to increase pipetting safety
- Buffer mixing with magnetic stirrer possible
- Box is prepared for connection of tubing and a peristaltic pump (Luer Lock connections)
- Buffer mixing and exchange via peristaltic pump possible (circulation)

Cat.No.	Size
46201.01	1 Piece

Xpress Dialysis Box Accessories

HS 39173300

Accessories for Xpress Dialysis Box
Contains: four fixing rubbers, two retaining clips, two fixation strips short, two fixation strips long.

Cat.No.	Size
46203.01	1 Piece

Xpress Dialysis Box Lid

HS 39173300

Lid, made from polystyrol, for Xpress Dialysis Box.

Cat.No.	Size
46202.01	1 Piece

Xpress Dialysis Box Refill Set MD100, MWCO 2 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46204.01	1 ki

Xpress Dialysis Box Refill Set MD100, MWCO 3.5 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46205.01	1 ki

Xpress Dialysis Box Refill Set MD100, MWCO 6 - 8 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46206.01	1 ki

Xpress Dialysis Box Refill Set MD100, MWCO 12 - 14 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46207.01	1 ki

Xpress Dialysis Box Refill Set MD100, MWCO 20 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46208.01	1 ki

Xpress Dialysis Box Refill Set MD100, MWCO 140 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46209.01	1 ki

Xpress Dialysis Box Refill Set MD300, MWCO 2 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46210.01	1 ki

Xpress Dialysis Box Refill Set MD300, MWCO 3.5 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46211.01	1 ki

Xpress Dialysis Box Refill Set MD300, MWCO 6 - 8 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46212.01	1 ki

Xpress Dialysis Box Refill Set MD300, MWCO 12 - 14 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46213.01	1 ki

Xpress Dialysis Box Refill Set MD300, MWCO 20 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46214.01	1 ki

Xpress Dialysis Box Refill Set MD300, MWCO 140 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46215.01	1 ki

Xpress Dialysis Box Refill Set ED300, MWCO 3.5 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46216.01	1 ki

Xpress Dialysis Box Refill Set ED300, MWCO 6 - 8 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46217.01	1 ki

Xpress Dialysis Box Refill Set ED300, MWCO 12 - 14 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46218.01	1 ki

Xpress Dialysis Box Refill Set ED300, MWCO 20 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46219.01	1 ki

Xpress Dialysis Box Refill Set ED300, MWCO 140 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46220.01	1 ki

Xpress Dialysis Box Refill Set MD1000, MWCO 2 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46221.01	1 ki

Xpress Dialysis Box Refill Set MD1000, MWCO 3.5 kDa

Refill set for insertion into the Xpress Dialysis BoxCartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46222.01	1 ki

Xpress Dialysis Box Refill Set MD1000, MWCO 6 - 8 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46223.01	1 ki

Xpress Dialysis Box Refill Set MD1000, MWCO 12 - 14 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46224.01	1 ki

Xpress Dialysis Box Refill Set MD1000, MWCO 20 kDa

Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46225.01	1 ki

Xpress Dialysis Box Refill Set MD1000, MWCO 140 kDa

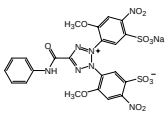
Refill set for insertion into the Xpress Dialysis Box. Cartridges are ready for use in the 96-sample insert, fixed by two locking strips. Contains rubber bands to fix the insert in the Xpress Dialysis Box.

Content: 12 cartridges in 96 samples grid

Cat.No.	Size
46226.01	1 ki

XTT

(Sodium 3,3'-{-[(Phenylamino)carbonyl]-3,4-Tetrazolium}-Bis(4-methoxy-6-nitro)benzenesulfonic acid hydrate)



$C_{22}H_{16}N_7O_{13}S_2Na$ ♦ M_r 674.53 ♦ CAS [111072-31-2]

HS 29339980
Storage temperature +2 °C to +8 °C

Monotetrazolium salt which forms a water-soluble formazan upon reduction. Suitable for anti-HIV (1 - 3) and anti-tumor (4 - 6) drug testing as well as for cell proliferation assays (7 - 8).

References:

1. Weislov, O.S. et al. (1989) J. Natl. Cancer Inst. ***81,*** 577-86
2. Gulakowski, R.J. et al. (1991) J. Virol. Methods ***33,*** 87-100
3. Yu, K.L. et al. (1992) J. Med. Chem. ***35,*** 2958-69
4. Scudiero, D.A. et al. (1988) Cancer Res. ***48,*** 4827-33
5. Jost, L.M. et al. (1992) J. Immunol. Methods ***147,*** 153-65
6. Kondo, T. et al. (1994) Oncology ***51,*** 535-9
7. Roehm, N.W. et al. (1991) J. Immunol. Methods ***142,*** 257-65
8. Buttke, T.M. et al. (1993) J. Immunol. Methods ***157,*** 233-40

Cat.No.	Size
38450.01	50 mg
38450.02	250 mg

XTT Cell Proliferation Assay

HS 38220000
Storage temperature -15 °C to -25 °C

The XTT Cell Proliferation Assay is a colorimetric assay that detects the cellular metabolic activities. During the assay, the yellow tetrazolium salt XTT is reduced to a highly coloured formazan dye by dehydrogenase enzymes in metabolically active cells. This conversion only occurs in viable cells and thus, the amount of the formazan produced is proportional to viable cells in the sample. The formazan dye formed in the assay is soluble in aqueous solution and can be quantified by measuring the absorbance at wavelength 450 nm using a spectrophotometer. An electron coupling reagent, such as N-methylphenazonium methyl sulfate (PMS) can significantly improve the efficiency of XTT reduction in cells.

- Easy to use - no need for additional reagents and washing procedures
- Rapid and sensitive – no solubilisation step, works with low cell concentrations
- Accurate – dye absorbance proportional to the number of cells/well

Content: 2x 25 ml XTT Reagent, 1 ml Activation Reagent

Cat.No.	Size
39904.01	1 kit

Xylan from beech wood pure

CAS [9014-63-5]
Storage Temperature: +15 °C to +30 °C

EINECS 232-760-6 ♦ WGK 1 ♦ HS 29400000

Highly purified xylan from beech wood for use in research, biochemical enzyme assays and *in vitro* diagnostic analysis.

Cat.No.	Size
38500.02	25 g

Yeast extract SERVABACTER® powder

CAS [8013-01-2]

EINECS 232-387-9 ♦ HS 38210000

Water soluble fraction of yeast autolysate. A 2 % aqueous solution is clear and has a pH of ca. 6.5 - 7.5. Rich in B vitamins and growth factors, convenient standard material for culture media. Tested for use in tissue culture.

SERVABACTER = registered trademark of SERVA

Cat.No.	Size
24540.02	500 g
24540.03	5 kg

YPD Agar, powder 65 g for 1 liter medium

HS 38210000

A nutritious general growth medium for the propagation of yeast
20 g/l Tryptone
10 g/l Yeast extract
20 g/l Dextrose
15 g/l Agar
For making 1 L agar medium, suspend 65 g in 1 L distilled water and sterilize by autoclaving. Cool to 45 °C prior dispensing into sterile petri dishes.

References:

1. Ed. Ausubel et al. (1994) Current Protocols in Molecular Biology, Massachusetts General Hospital & Harvard Medical School

Cat.No.	Size
48508.01	650 g

YPD Medium, powder 50 g for 1 liter medium

HS 38210000

A nutritious general growth medium for the propagation of yeast.
20 g/l Tryptone
10 g/l Yeast extract
20 g/l Dextrose
For making 1 L liquid medium suspend 50 g in 1 L distilled water and sterilize by autoclaving.

References:

1. Ed. Ausubel et al. (1994) Current Protocols in Molecular Biology, Massachusetts General Hospital & Harvard Medical School

Cat.No.	Size
48507.01	500 g

2xYT Medium, powder 31 g for 1 liter medium

HS 38210000

For cultivation of *E. coli* and M13 bacteriophages in molecular biology.
16 g/l Tryptone
10 g/l Yeast extract
5 g/l NaCl
For making 1 L 2x liquid medium suspend 31 g in 900 ml distilled water, adjust the pH to 7.0 with approximately 0.2 ml of 5 N NaOH, fill up to a final volume of 1 L with deionized water and sterilize by autoclaving.

References:

1. Sambrook, J., et al., Molecular Cloning : A Laboratory Manual, 2nd ed., p. A.3, Cold Spring Harbor laboratory Press, Cold Spring Harbor, New York

Cat.No.	Size
48503.01	620 g

Zymolyase® from *Arthrobacter luteus*, min. 20 U/mg

lyophil.

(Lyticase, β-1,3-Glucanlaminaripentaohydrolase)

DANGER
H334
CAS [37340-57-1] ♦ HS 35079090

Zymolyase®, produced by a submerged culture of *Arthrobacter luteus* (1), has strong lytic activity against living yeast cell walls to produce protoplast or spheroplast of various strains of yeast cells (2, 3).
This enzyme is prepared by ammonium sulfate precipitation. The essential enzyme activity for the lysis of yeast cells is β-1,3-glucan laminaripentaohydrolase. It hydrolyzes linear glucose polymers with β-1,3-linkages and releases specifically laminaripentaose as the main and minimum product unit (4, 5). Lytic activity varies depending on yeast strain, growth stage of yeast, or cultural conditions (6, 7, 8).
Contained main side activities are β-1,3-glucanase, protease, and mannanase (3).
At 30 °C about 70 % of the lytic activity is lost after 3 months and at 60 °C after 5 minutes all the lytic activity is lost. For lysis of viable cells the optimum temperature is 35 °C at pH 7.5 and for hydrolysis of yeast glucan 45 °C at pH 6.5.
Zymolyase® was shown to lyse *Ashbya, Candida, Debaryomyces, Eremothecium, Endomyces, Hansenula, Hanseniaspora, Kloeckera, Kluyveromyces, Lipomyces, Metschikowia, Pichia, Pullularia, Torulopsis, Saccharomyces, Saccharomycopsis, Saccharomycodes, Schwanniomyces*, etc. (5). It is activated by a SH compound such as cysteine, 2-mercaptoethanol or dithiothreitol.

Unit definition: One unit of lytic activity is defined as the enzyme amount causing a decrease of 30 % in absorbance at 800 nm using 6 mg Brewer's yeast as substrate in phosphate buffer (pH 7.5) at 25 °C.

Zymolyase = registered trademark of Kirin Holdings Company Limited

References:

1. Kaneko, T. et al. (1969) J. Gen. Appl. Microbiol. ***15***, 317 ff.
2. Kitamura, K. et al. (1971) Arch. Biochem. Biophys. ***145***, 402 ff.
3. Kitamura, K. et al. (1972) J. Gen. Appl. Microbiol. ***18***, 57 ff.
4. Kitamura, K. & Yamamoto, Y. (1972) Arch. Biochem. Biophys. ***153***, 403 ff.
5. Kaneko, T. et al. (1973) Agric. Biol. Chem. (1973) ***37***, 2295 ff.
6. Kitamura, K. et al. (1974) J. Gen. Appl. Microbiol. ***20***, 323 ff.
7. Kitamura, K. & Yamamoto, Y. (1981) Agric. Biol. Chem. ***45***, 1761 ff.
8. Kitamura, K. & Tanabe, K. (1982) Agric. Biol. Chem. ***46***, 553 ff.

Cat.No.	Size
33759.01	100 mg
33759.02	500 mg

Zymolyase® from *Arthrobacter luteus*, min. 100 U/mg

lyophil.

(Lyticase, β-1,3-Glucanlaminaripentaohydrolase)

DANGER
H334
CAS [37340-57-1] ♦ HS 35079090

Zymolyase®, produced by a submerged culture of *Arthrobacter luteus* (1), has strong lytic activity against living yeast cell walls to produce protoplast or spheroplast of various strains of yeast cells (2, 3).
This enzyme is prepared by ammonium sulfate precipitation and further purified by affinity chromatography. The essential enzyme activity for the lysis of yeast cells is β-1,3-glucan laminaripentaohydrolase. It hydrolyzes linear glucose polymers with β-1,3-linkages and releases specifically laminaripentaose as the main and minimum product unit (4, 5). Lytic activity varies depending on yeast strain, growth stage of yeast, or cultural conditions (6, 7, 8).
Contained main side activities are β-1,3-glucanase, protease, and mannanase (3).
At 30 °C about 90 % of the lytic activity is lost after 3 months and at 60 °C after 5 minutes all the lytic activity is lost.
For lysis of viable cells the optimum temperature is 35 °C at pH 7.5 and for hydrolysis of yeast glucan 45 °C at pH 6.5.
Zymolyase® was shown to lyse *Ashbya, Candida, Debaryomyces, Eremothecium, Endomyces, Hansenula, Hanseniaspora, Kloeckera, Kluyveromyces, Lipomyces, Metschikowia, Pichia, Pullularia, Torulopsis, Saccharomyces, Saccharomycopsis, Saccharomycodes, Schwanniomyces*, etc. (5). It is activated by a SH compound such as cysteine, 2-mercaptoethanol or dithiothreitol.

Unit definition: One unit of lytic activity is defined as the enzyme amount causing a decrease of 30 % in absorbance at 800 nm using 6 mg Brewer's yeast as substrate in phosphate buffer (pH 7.5) at 25 °C.

Zymolyase = registered trademark of Kirin Holdings Company Limited

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References:

1. Kaneko, T. et al. (1969) J. Gen. Appl. Microbiol. ***15***, 317 ff.
2. Kitamura, K. et al. (1971) Arch. Biochem. Biophys. ***145***, 402 ff.
3. Kitamura, K. et al. (1972) J. Gen. Appl. Microbiol. ***18***, 57 ff.
4. Kitamura, K. & Yamamoto, Y. (1972) Arch. Biochem. Biophys. ***153***, 403 ff.
5. Kaneko, T. et al. (1973) Agric. Biol. Chem. (1973) ***37***, 2295 ff.
6. Kitamura, K. et al. (1974) J. Gen. Appl. Microbiol. ***20***, 323 ff.
7. Kitamura, K. & Yamamoto, Y. (1981) Agric. Biol. Chem. ***45***, 1761 ff.
8. Kitamura, K. & Tanabe, K. (1982) Agric. Biol. Chem. ***46***, 553 ff.

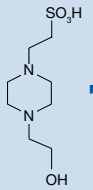
Cat.No.	Size
33760.01	100 mg

Appendix

Erläuterungen zum Produkteintrag

1 **N-(2-Hydroxyethyl)piperazine-N'-2-ethane sulfonic acid**
2 analytical grade
3 (HEPES)
4 $C_8H_{18}N_2O_4S$ ♦ M_r 238.3 ♦ CAS [7365-45-9] — 6
5
7 EINECS 230-907-9 ♦ WGK 1L ♦ HS 29335995

pKa 20= 7.55. Buffering substance (1). Tested for use in tissue culture (2). Physical parameters (3).



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8

Assay (titr.)	min. 99.0 %
A 1 cm/10 % in water	
260 nm	max. 0.1
280 nm	max. 0.08
Heavy metals (Pb)	max. 10 ppm
pH 10 % in water	5.0 - 6.5

References:

1. Good, N.E. et al. (1966) Biochemistry ***5,*** 467-77
2. Shipman jr., Ch. (1969) Proc. Soc. Exp. Biol. Med.***130,*** 305-10
3. Vega, C.A. & Bates, R.G. (1976) Anal. Chem. ***48,***1293-6

10

Cat.No.	Size	EUR
25245.02	25 g	19,00
25245.03	100 g	30,00
25245.04	250 g	65,00
25245.05	1 kg	185,00
25245.06	5 kg	740,00

Glucose oxidase from *Aspergillus niger* ca. 220 U/mg
lyophil.
11 EC 1.1.3.4
12 Storage temperature -15 °C to -25 °C ✻ — 13

Amido Black 10 B
(Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
14 C.I.20470 ♦ $C_{22}H_{14}N_6O_9S_2 \cdot Na_2$ ♦ M_r 616.5 ♦

Acrylamide 4X analytical grade
C_3H_5NO ♦ M_r 71.1 ♦ CAS [79-06-1]

15 
DANGER
H301-H312-H315-H317-H319-H332-H340-H350-H361f-H372 — 16
Muta. 1B, Carc. 1B, Repr. 2 ♦ MAK/TRK 0,03 mg/m³ — 19
17 EG-Index 616-003-00-0 ♦ EINECS 201-173-7 — 18
20 GGVSE/ADR 6.1 III UN2074 ♦ IATA 6.1 III UN2074 ♦
WGK 3L — 21

1. Produktname

2. Reinheitsgrad
analytical grade
Standardqualität für analytische Arbeiten

research grade (reinst)
Hochwertige Qualität für Forschung und Produktion

molecular biology grade
Laboratoriumsreagens für die molekularbiologische Forschung, getestet auf Abwesenheit von DNasen und RNasen

pure (rein)
Gereinigtes Reagens für universellen Einsatz

pract.
Reagens für synthetische Zwecke

Nur einwandfreie, unseren Spezifikationen entsprechende Ware wird für den Verkauf freigegeben.

Jedes Produkt enthält eine Chargenkennzeichnung, die auf dem Etikett als Zahlencode oder Zahlen- und Buchstabencode vermerkt ist (im Falle einer Rückfrage bitte angeben).

3. Synonyme

4. Summenformel

5. Molekulargewicht
Relative Molekülmasse

6. CAS-Nummer
Registriernummer des Chemical Abstracts Service. Die CAS-Nummern dienen zur Sicherstellung der Identität chemischer Verbindungen.

7. HS-Nummer
Harmonisiertes System zur Bezeichnung und Zuordnung der Waren im Internationalen Handel (= Zolltarif-Nummer)

8. Produktbeschreibung
Mit Anwendungshinweisen, Literaturzitaten, chemischen und physikalischen Spezifikationen

9. Strukturformel

10. Katalognummer, Abpackungen, Preise (EUR)
Viele unserer Produkte sind auch in größeren Mengen als jeweils im Katalog angegeben zu günstigeren Konditionen lieferbar.
Bitte fragen Sie nach »**Bulk Quantities**«.

11. EC-Nummer
Enzyme-Klassifizierungsnummer

12. Lagertemperatur
Ist bei einem Produkt keine spezielle Lagertemperatur angegeben, erfolgt die Lagerung bei Raumtemperatur.

13. Kühlsendung
Besonders empfindliche Präparate werden gekühlt (✻) oder gefroren (✻✻) verschickt. Die Haltbarkeit bei Trockeneisversand beträgt bei ca. 30 °C Außentemperatur mindestens 48 Stunden.
Für Trockeneislieferungen berechnen wir eine Pauschale.

14. CI-Nummer
Farbenindexnummer (Colour Index)

15. Einstufung gefährlicher Stoffe/ Gemische
Das europäische System zur global harmonisierten Einstufung, Kennzeichnung und Verpackung von Stoffen und Gemischen (GHS/CLP) basiert auf der seit dem 20. Januar 2009 in Kraft getretenen Verordnung (EG) Nr. 1272/2008 (europäische CLP-Verordnung) des europäischen Parlaments und des Rates. SERVAs Stoffe und Gemische werden seit Dezember 2010 gemäß dieser Verordnung eingestuft, gekennzeichnet und verpackt.
Ziel der Verordnung ist es, ein hohes Schutzniveau für die menschliche Gesundheit und für die Umwelt sicherzustellen. Außerdem wird eine weltweite Harmonisierung von Vorschriften für die Einstufung und Kennzeichnung von chemischen Stoffen und Gemischen erreicht.
Nach CLP-Verordnung Anhang V sind die gefährlichen Stoffe und Gemische mit folgenden Gefahrenpiktogrammen zu kennzeichnen:

 GHS01	 GHS06
 GHS02	 GHS07
 GHS03	 GHS08
 GHS04	 GHS09
 GHS05	

16. R-Begriffsbestimmungen in Verordnung (EG) Nr. 1272/2008, die Einstufung und Kennzeichnung gefährlicher Stoffe und Gemische betreffend

Signalwort:
Gefahr: Signalwort für die schwerwiegenden Gefahrenkategorien
Achtung: Signalwort für die weniger schwerwiegenden Gefahrenkategorien

Gefahrenhinweise (H-Sätze):
beschreiben die Art und gegebenenfalls den Schweregrad der von einem gefährlichen Stoff oder Gemisch ausgehenden Gefahr.

Sicherheitshinweise (P-Sätze):
Textaussagen, die eine (oder mehrere) empfohlene Sicherheitsmaßnahme(n) beschreiben.

Gemische:
Gemische oder Lösungen, die aus zwei oder mehr Stoffen bestehen

SVHC:
Besonders besorgniserregende Substanz der sogenannten Kandidatenliste für die mögliche Aufnahme in das Verzeichnis der zulassungspflichtigen Stoffe (Anhang XIV der Verordnung (EG) Nr. 1907/2006).
Die Stoffe erfüllen mindestens eines der in Artikel 57 dieser Verordnung angegebenden Kriterien:
a) krebserzeugend
b) erbgutverändernd
c) fortpflanzungsgefährdend
d) persistent, bioakkumulierbar und toxisch
e) sehr persistent und sehr bioakkumulierbar
f) wahrscheinlich mit schwerwiegenden Wirkungen auf die menschliche Gesundheit oder auf die Umwelt .

Der Pflicht zur Weitergabe von Informationen über Stoffe gemäß Verordnung (EG) Nr. 1907/2006 bezüglich der sehr besorgniserregenden Stoffe kommt SERVA durch die Markierung dieser Stoffe mit SVHC nach.

17. EG-Index-Nummer

Kennnummer eines Stoffes oder einer bestimmten Stoffgruppe in der Liste der harmonisierten Einstufung und Kennzeichnung gefährlicher Stoffe im Anhang VI der Verordnung(EG) 1272/2008.

18. EG-Nummer

Offizielle Nummer des Stoffes in der Europäischen Union. Es werden drei Gruppen unterschieden:
1) EINECS: kann dem Verzeichnis der auf dem Markt vorhandenen Stoffe entnommen werden, beginnend mit 200-001-8
2) EILINCS: kann der Liste der angemeldeten Stoffe entnommen werden, beginnend mit 400-010-09
3) NLP: kann der Liste »no-longer-polymer« entnommen werden, beginnend mit 500-001-0

19. Luftgrenzwert

Die Gefahrstoffverordnung unterscheidet nachfolgende Grenzwerte in der Luft am Arbeitsplatz:

AGW: Arbeitsplatzgrenzwert

Begriffsbestimmungen (Gefahrenkategorien) gemäß Anhang I der Verordnung (EG) Nr. 1272/2008

Karzinogen
Ein Stoff oder ein Gemisch, der/das Krebs erzeugen oder die Krebshäufigkeit erhöhen kann, wird als karzinogen angesehen (differenziert als Kategorie 1A, 1B und Kategorie 2)

Mutagen
wird bei Stoffen verwendet, die zu einer gesteigerten Mutationshäufigkeit in Zellpopulationen und/oder Organismen führen (differenziert als Kategorie 1A, 1B und Kategorie 2).

Reproduktionstoxizität:
Beeinträchtigungen von Sexualfunktion und Fruchtbarkeit bei Mann und Frau sowie Entwicklungstoxizität bei den Nachkommen (differenziert als Kategorie 1A, 1B und Kategorie 2).

20. Gefahrgut-Transport

Gegenstände oder Stoffe, welche in der Lage sind, ein Risiko für Gesundheit, Sicherheit, Eigentum oder die Umwelt darzustellen und die in den Verzeichnissen gefährlicher Güter der Gefahrgutvorschriften des angewendeten Verkehrsträgers aufgeführt oder die entsprechend dieser Vorschriften klassifiziert sind.

UN-Nummer
Vierstellige Ziffer, die einem Stoff oder einer bestimmten Stoffgruppe vom UN-Sachverständigenausschuss für den Gefahrguttransport zur Identifizierung zugeordnet wurde.
Die vorangestellten Buchstaben „UN“ müssen bei Verwendung dieser Nummer immer mit angegeben werden.

ID-Nummer
Die ID-Nummer ist eine vorläufige Identifizierungsnummer in der 8000er Serie der IATA, für einen Gegenstand oder Stoff, der noch keiner UN-Nmmer zugeordnet wurde. Die vorangestellten Buchstaben „ID“ müssen bei Verwendung immer mit angegeben werden.
Die Gefahrgüter sind für alle Verkehrsträger einheitlich in UN-Gefahrenklassen eingeteilt, enige sind weiter in Unterklassen differenziert:

Klasse	Beschreibung
1	Explosive Stoffe u. Gegenstände mit Explosivstoff
2	Gase
3	Entzündbare flüssige Stoffe
4.1	Entzündbare feste Stoffe, selbstzersetzliche Stoffe und desensibilisierte explosive feste Stoffe
4.2	Selbstentzündliche Stoffe
4.3	Stoffe, die in Berührung mit Wasser entzündbare Gase bilden
5.1	Entzündend (oxidierend) wirkende Stoffe
5.2	Organische Peroxide
6.1	Giftige Stoffe
6.2	Ansteckungsfähriche Stoffe
7	Radioaktive Stoffe
8	Ätzende Stoffe
9	Verschiedene gefährliche Stoffe und Gegenstände

Verpackungsgruppen
Gefahrgüter sind einer dem Grad der von ihnen ausgehenden Gefahr entsprechenden Verpackungsgruppe zugeteilt:

Verpackungsgruppe I - hohe Gefahr
Verpackungsgruppe II - mittlere Gefahr
Verpackungsgruppe III - geringe Gefahr

Für diese Gefahrgutverpackungen berechnen wir eine Kostenpauschale von EUR 30,00.

Gefahrgutvorschriften differenziert nach den Verkehrsträgern :

Straße:
ADR europäisches Übereinkommen über die internationale Beförderung gefährlicher Güter auf der Straße (ADR).

Schiene:
RID Ordnung über die internationale Eisenbahnbeförderung gefährlicher Güter

Binnenwasserstraße:
ADN Europäisches Übereinkommen über die internationale Beförderung gefährlicher Güter auf Binnenwasserstraßen

See:
IMDG-Code Internationaler Code für die Beförderung gefährlicher Güter mit Seeschiffen
Luft:
IATA-DGR Gefahrgutvorschriften der IATA - Fluggesellschaften

Gefahrgüter können sicher transportiert werden, vorausgesetzt, dass einige Grundsätze genau befolgt werden.

Die richtige Deklaration durch den Versender gewährleistet, dass alle am Transportablauf Beteiligten wissen, welches Gefahrgut sie transportieren und was bei einem Vorfall oder Unfall am Boden oder im Flug zu tun ist.

Gefahrgüter sind normalerweise in UN-leistungsgeprüften Spezifikationsverpackungen verpackt. Solche sind nicht erforderlich, wenn Gefahrgut in „begrenzten Mengen“ oder „freigestellten Mengen“ transportiert wird.

Für diese Gefahrgutverpackungen berechnen wir eine Kostenpauschale.

21. WGK

Die wassergefährdenden Stoffe werden nach der Novelle VwVwS vom 27. Juli 2005 entsprechend ihrer Gefährlichkeit in eine der folgenden Wassergefährdungsklassen eingestuft:

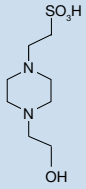
WGK 3: stark wassergefährdend
WGK 2: wassergefährdend
WGK 1: schwach wassergefährdend

Key to Product Entries

N-(2-Hydroxyethyl)piperazine-N'-2-ethane sulfonic acid
analytical grade
(HEPES)
$C_8H_{18}N_2O_4S$ ♦ M_r 238.3 ♦ CAS [7365-45-9]
EINECS 230-907-9 ♦ WGK 1L ♦ HS 29335995

pKa 20= 7.55. Buffering substance (1). Tested for use in tissue culture (2). Physical parameters (3).

Assay (titr.)	min. 99.0 %
A 1 cm/10 % in water	
260 nm	max. 0.1
280 nm	max. 0.08
Heavy metals (Pb)	max. 10 ppm
pH 10 % in water	5.0 - 6.5



References:
1. Good, N.E. et al. (1966) Biochemistry ***5,*** 467-77
2. Shipman jr., Ch. (1969) Proc. Soc. Exp. Biol. Med.***130,*** 305-10
3. Vega, C.A. & Bates, R.G. (1976) Anal. Chem. ***48,***1293-6

Cat.No.	Size	EUR
25245.02	25 g	19,00
25245.03	100 g	30,00
25245.04	250 g	65,00
25245.05	1 kg	185,00
25245.06	5 kg	740,00

Glucose oxidase from *Aspergillus niger* ca. 220 U/mg
lyophil.
EC 1.1.3.4
Storage temperature -15 °C to -25 °C ✻

Amido Black 10 B
(Acid Black 1; Naphthalene Black B; Naphthol Blue Black B; Buffalo Black NBR)
C.I.20470 ♦ $C_{22}H_{14}N_6O_9S_2{\cdot}Na_2$ ♦ M_r 616.5 ♦

Acrylamide 4X analytical grade
C_3H_5NO ♦ M_r 71.1 ♦ CAS [79-06-1]

DANGER
H301-H312-H315-H317-H319-H332-H340-H350-H361f-H372
Muta. 1B, Carc. 1B, Repr. 2 ♦ MAK/TRK 0,03 mg/m³
EG-Index 616-003-00-0 ♦ EINECS 201-173-7
GGVSE/ADR 6.1 III UN2074 ♦ IATA 6.1 III UN2074 ♦
WGK 3L

1. Product Name

2. Quality Characteristics

analytical grade
High quality reagent for analytical work.

research grade
High quality laboratory reagent for research and production.

molecular biology grade
High quality laboratory reagent for molecular biology research, DNase/RNase activity: none detected.

Pure
Multi-purpose reagent, purified.

pract.
Reagent for use in syntheses.

Only items which have been approved and which comply to our specifications are released for sale.

Each product has a lot indication marked on the label as a code which is needed as a reference for all claims.

3. Synonyma

4. Molecular Formula

5. Molecular Weight
Relative Molecular Mass

6. CAS Number
Chemical Abstracts Service Number

7. HS Numbers
Product numbers according to International Agreements on Tariffs.

8. Product Description
Including applications, literature references, chemical and physical parameters.

9. Structural Formula

10. Catalog Number, Package Sizes and Prices (EUR)
Please ask for quantities others than those stated here-many of our products are available at favorable bulk prices.

11. EC-Number
Enzyme Classification Number

12. Storage Temperature

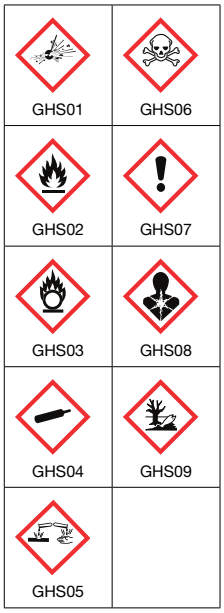
13. Refrigerated Shipments
If necessary our products are shipped chilled (✻) or frozen (✻✻) in containers withstanding ambient temperatures up to 30 °C for a minimum of 48 hours. A surplus fee is applicable.

14. CI-Number
Colour Index Number

15. Classification of hazardous substances and mixtures
The european system on globally harmonised classification, labelling and packaging of substances and mixtures (GHS/CLP) bases on Regulation (EC) No.1272/2008 (CLP-Regulation) which has become effective on 20th January 2009. SERVA's substances and mixtures are classified, labelled and packaged according to this regulation.

It's the aim of this regulation to ensure a high level of protection of human health and the environment. In addition it is essential to harmonize the provisions and criteria for the classification and labelling of substances and mixtures.

According to Annex V of this regulation the hazardous substances and mixtures have to be labeled with the hazard Pictograms as given below:



16. Definitions in Regulation (EC) No 1272/2008 concerning the classification of hazardous Substances and mixtures.

Signal word:
Danger: a signal word indicating the more severe hazard categories
Warning: a signal word indicating the less severe hazard categories

Hazard statements (H-Phrases):
Describe the nature of the hazards of a hazardous substance or mixture, including, where appropriate, the degree of hazard

Precautionary statements (P-Phrases):
A phrase that describes recommended safety measure(s)

Mixture:
A mixture or solution composed of two or more substances

SVHC:
Substance of very high concern on the so called candidate list for a possible inclusion in the list of substances subject to authorisation (annex XIV of Regulation (EC) No. 1907/2006).
Substances included on this list meet at least one of the criteria given in Article 57 of this regulation:
a) carcinogenic
b) mutagenic
c) toxic for reproduction
d) persistent, bioaccumulative and toxic
e) very persistent and very bioaccumulative
f) probable serious effects to human health or the environment

Referring to the duty to communicate informations on substances according to Regulation (EC) No. 1907/2006 regarding the substances of very high concern, SERVA marks these substances with SVHC.

17. EG Index Number

Number given by the list of appendix I of the Guideline No. 67/548/EWG (European Economic Community) respectively regulation (EG) No. 1272/2008.

18. EG Number

It is the official number of the substance within the European Union. The numbers are divided into three groups:
1) EINECS: The EINECS number can be obtained from the European Inventory of Existing Commercial Chemical Substance (EINECS), numbers start at 200-001-8
2) ELINCS: The ELINCS number can be obtained from the European List of Notified Substances, numbers start at 400-010-9
3) NLP: The NLP number can be obtained from the list of 'No-longer-polymers', numbers start at 500-001-0

19. Thresholds

The Hazardous Substances Ordinance provides the following definitions for a hazard present in the air at site of work (acc. To German official standards):

OELV: occupational exposure limit value

Definitions and hazard categories according to Annex I of Regulation (EC) No 1272/2008

Carcinogen means a substance or a mixture of substances which induce cancer or increase its incidence (distinguished as Category 1A, 1B and Category 2).

Mutagen used for agents giving rise to an increased occurrence of mutations in populations of cells and/or organisms (distinguished as Category 1A, 1B and Category 2).

Reproductive toxicity: Adverse effects on sexual function and fertility in adult males and females, as well as developmental toxicity in the offspring (distinguished as Category 1A, 1B and Category 2).

20. Dangerous Goods Transport

Dangerous goods are articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods of the applied mode of transport's Dangerous Goods Regulations or which are classified according to these Regulations

UN-Number
The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods to identify a substandce or a particular group of substances. The prefix „UN" must always be used in conjunction with these numbers.

ID-Number
The ID-Number is a temporary identification number (ID) in the 8000 series assigned to an article or substance for which no UN-number has been assigned. The prefix „ID" must always be used in conjunction with these numbers.

The dangerous goods are divided for all modes of transport in the following UN hazard classes, some are further distinguished in sub-divisions.

Class	Description
1	Explosives
2	Gases
3	Flammable liquids
4.1	Flammable solids, self-reactive sub stances and and solid desensitized explosives
4.2	Substances liable to spontaneous combustion
4.3	Substances which, in contact with water, emit flammable gases
5.1	Oxidizers
5.2	Organic peroxides
6.1	Toxic substances
6.2	Infectious substances
7	Radioactive material
8	Corrosives
9	Miscellaneous dangerous goods

Packing Groups
Dangerous goods are assigned to the relevant packing group according to the degree of hazard they present:

Packing group I	- high danger
Packing group II	- medium danger
Packing group III	- low danger

Dangerous Goods Regulations distinguished as the modes of transport:

Road:
ADR European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

Rail:
RID Regulations concerning the International Carriage of Dangerous Goods by Rail

Inland waterway:
ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

Sea:
IMDG-Code International Maritime Dangerous Goods Code

Air:
IATA DGR International Air Transport Association Dangerous Goods Regulations

Dangerous goods can be transported safely provided when certain principles are strictly followed.

The proper declaration of dangerous goods by the shipper ensures that all in the transportation chain know what dangerous goods they are transporting and what to do if an incident or accident occurs in flight or on the ground.

Dangerous goods normally are packed in UN performance-tested specification packagings. These are not required when dangerous goods are shipped in „limited quantities" or „excepted quantities".

We reserve the right to ask for a surcharge for packaging suited for transportation of dangerous goods.

21. WGK

Water endangering substances are classified in compliance according to their hazardous properties:

WGK 3: extremely hazardous for water
WGK 2: hazardous for water
WGK 1: slightly hazardous for water

Global Harmonisiertes Einstufungs- und Kenzeichnungssystem (GHS)

Gefahr		GHS01	H200, H201, H202, H203 H240 H241
Achtung		GHS01	H204
Gefahr		GHS02	H220, H222, H224 H225 , H228, H229 H241, H242 H250, H251, H260, H261
Achtung		GHS02	H223 , H226, H228, H229 H242, H252, H261
Achtungr	Kein Pikto-gramm		H221, H229
Gefahr		GHS03	H270, H271, H272
Achtung		GHS03	H272
Achtung		GHS04	H280, H281
Gefahr		GHS06	H300, H310, H330 H301, H311, H331
Achtung		GHS07	H302, H312, H332
Gefahr		GHS08	H340, H350, H360, H370 H372, H334, H304
Achtung		GHS08	H341, H351, H361, H371 H373
Gefahr		GHS05	H314, H318
Achtung		GHS05	H290
Achtung		GHS07	H315, H319, H317, H335, H336, H420
Achtung		GHS09	H400, H410
Kein Signalwort		GHS09	H411

Die GHS Verordnung bzw. CLP (Regulation on Classification, Labelling and Packaging of Substances and Mixtures) Verordnung (EG) Nr. 1272/2008 ist am 20. Januar 2009 in Kraft getreten.

Durch diese Verordnung werden die Stoffrichtlinie 67/548/EWG und die Zubereitungsrichtlinie 1999/45/EG durch eine neue Verordnung über einen Zeitraum von einigen Jahren ersetzt und die Verordnung EG Nr. 1907/2006 (REACH) geändert.

Ziel der Verordnung ist es, ein hohes Schutzniveau für die menschliche Gesundheit und für die Umwelt sicherzustellen. Außerdem wird eine weltweite Harmonisierung von Vorschriften für die Einstufung und Kennzeichnung von chemischen Stoffen und Gemischen erreicht.

Wir möchten unseren Kunden mit diesen Informationen einen Einblick in die neue Systematik vermitteln und gleichzeitig die Möglichkeit bieten, sich mit den neuen Piktogrammen sowie H- (Gefahrenhinweise)- und P- (Sicherheitshinweise) Sätzen vertraut zu machen.

H-Sätze

Gefahrenhinweise für physikalische Gefahren

H200
Instabil, explosiv.
H201
Explosiv, Gefahr der Massenexplosion.
H202
Explosiv; große Gefahr durch Splitter, Spreng- und Wurfstücke.
H203
Explosiv; Gefahr durch Feuer, Luftdruck oder Splitter, Spreng- und Wurfstücke.
H204
Gefahr durch Feuer oder Splitter, Spreng- und Wurfstücke.
H205
Gefahr der Massenexplosion bei Feuer.
H220
Extrem entzündbares Gas.
H221
Entzündbares Gas.
H222
Extrem entzündbares Aerosol.
H223
Entzündbares Aerosol.
H224
Flüssigkeit und Dampf extrem entzündbar.
H225
Flüssigkeit und Dampf leicht entzündbar.
H226
Flüssigkeit und Dampf entzündbar.
H227
Brennbare Flüssigkeit.
H228
Entzündbarer Feststoff.
H229
Behälter steht unter Druck: Kann bei Erwärmung bersten.
H230
Explosionsgefahr selbst ohne Luftzufuhr.
H231
Explosionsgefahr selbst ohne Luftzufuhr bei erhöhtem Druck und / oder erhöhter Temperatur.
H240
Erwärmung kann Explosion verursachen.
H241
Erwärmung kann Brand oder Explosion verursachen.
H242
Erwärmung kann Brand verursachen.
H250
Entzündet sich in Berührung mit Luft von selbst.
H251
Selbsterhitzungsfähig; kann in Brand geraten.
H252
In großen Mengen selbsterhitzungsfähig; kann in Brand geraten.
H260
In Berührung mit Wasser entstehen entzündbare Gase, die sich spontan entzünden können.
H261
In Berührung mit Wasser entstehen entzündbare Gase.
H270
Kann Brand verursachen oder verstärken; Oxidationsmittel.
H271
Kann Brand oder Explosion verursachen; starkes Oxidationsmittel.
H272
Kann Brand verstärken; Oxidationsmittel.
H280
Enthält Gas unter Druck; kann bei Erwärmung explodieren.
H281
Enthält tiefkaltes Gas; kann Kälteverbrennungen oder -verletzungen verursachen.
H290
Kann gegenüber Metallen korrosiv sein.

Gefahrenhinweise für Gesundheitsgefahren

H300
Lebensgefahr bei Verschlucken.
H301
Giftig bei Verschlucken.
H302
Gesundheitsschädlich bei Verschlucken.
H303
Kann bei Verschlucken gesundheitsschädlich sein.
H304
Kann bei Verschlucken und Eindringen in die Atemwege tödlich sein.
H3505
Kann beim Verschlucken und wenn es in die Atemwege gelangt gesundheitsschädlich sein.
H310
Lebensgefahr bei Hautkontakt.
H311
Giftig bei Hautkontakt.
H312
Gesundheitsschädlich bei Hautkontakt.
H313
Kann bei Berührung mit der Haut gesundheitsschädlich sein.
H314
Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
H315
Verursacht Hautreizungen.
H316
Verursacht leichte Hautreizungen.
H317
Kann allergische Hautreaktionen verursachen.
H318
Verursacht schwere Augenschäden.
H319
Verursacht schwere Augenreizung.
H320
Verursacht Augenreizungen.
H330
Lebensgefahr bei Einatmen.
H331
Giftig bei Einatmen.
H332
Gesundheitsschädlich bei Einatmen.
H333
Kann beim Einatmen gesundheitsschädlich sein.
H334
Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.
H335
Kann die Atemwege reizen.
H336
Kann Schläfrigkeit und Benommenheit verursachen.
H340
Kann genetische Defekte verursachen Expositionsweg angeben, sofern schlüssig belegt ist, dass diese Gefahr bei keinem anderen Expositionsweg besteht.
H341
Kann vermutlich genetische Defekte verursachen.
H350
Kann Krebs erzeugen.
H350i
Kann bei Einatmen Krebs erzeugen.
H351
Kann vermutlich Krebs erzeugen.
H351i
Kann bei Einatmen Krebs erzeugen.
H360
Kann die Fruchtbarkeit beeinträchtigen oder das Kind im Mutterleib schädigen.
H360D
Kann das Kind im Mutterleib schädigen.
H360Df
Kann das Kind im Mutterleib schädigen. Kann vermutlich die Fruchtbarkeit beeinträchtigen.
H360F
Kann die Fruchtbarkeit beeinträchtigen.
H360FD
Kann die Fruchtbarkeit beeinträchtigen. Kann das Kind im Mutterleib schädigen.

H360Fd
Kann die Fruchtbarkeit beeinträchtigen. Kann vermutlich das Kind im Mutterleib schädigen.
H361
Kann vermutlich die Fruchtbarkeit beeinträchtigen oder das Kind im Mutterleib schädigen.
H361d
Kann vermutlich das Kind im Mutterleib schädigen.**H361f**
Kann vermutlich die Fruchtbarkeit beeinträchtigen.
H361fd
Kann vermutlich die Fruchtbarkeit beeinträchtigen. Kann vermutlich das Kind im Mutterleib schädigen.
H362
Kann Säuglinge über die Muttermilch schädigen.
H370
Schädigt die Organe.
H371
Kann die Organe schädigen.
H372
Schädigt die Organe bei längerer oder wiederholter Exposition.
H373
Kann die Organe schädigen bei längerer oder wiederholter Exposition.
H300+H310
Lebensgefahr bei Verschlucken oder Hautkontakt.
H300+H310+H330
Lebensgefahr bei Verschlucken, Hautkontakt oder Einatmen.
H300+H330
Lebensgefahr bei Verschlucken oder Einatmen.
H301+H311
Giftig bei Verschlucken oder Hautkontakt.
H301+H311+H331
Giftig bei Verschlucken, Hautkontakt oder Einatmen.
H301+H331
Giftig bei Verschlucken oder Einatmen.
H302+H312
Gesundheitsschädlich bei Verschlucken oder Hautkontakt.
H302+H312+H332
Gesundheitsschädlich bei Verschlucken, Hautkontakt oder Einatmen.
H302+H332
Gesundheitsschädlich bei Verschlucken oder Einatmen.
H303+H313
Kann beim Verschlucken oder bei Berührung mit der Haut gesundheitsschädlich sein.
H303+H313+H333
Kann beim Verschlucken, bei Berührung mit der Haut oder beim Einatmen gesundheitsschädlich sein.
H303+H333
Kann beim Verschlucken oder beim Einatmen gesundheitsschädlich sein.
H310+H330
Lebensgefahr bei Hautkontakt oder Einatmen.
H311+H331
Giftig bei Hautkontakt oder Einatmen.
H312+H332
Gesundheitsschädlich bei Hautkontakt oder Einatmen.
H313+H333
Kann bei Berührung mit der Haut oder beim Einatmen gesundheitsschädlich sein.
H315+H320
Verursacht Haut- und Augenreizungen.

Gefahrenhinweise für Umweltgefahren

H400
Sehr giftig für Wasserorganismen.
H401
Giftig für Wasserorganismen.
H402
Schädlich für Wasserorganismen.
H410
Sehr giftig für Wasserorganismen mit langfristiger Wirkung.
H411
Giftig für Wasserorganismen, mit langfristiger Wirkung.
H412
Schädlich für Wasserorganismen, mit langfristiger Wirkung.
H413
Kann für Wasserorganismen schädlich sein, mit langfristiger Wirkung.
H420
Schädigt die öffentliche Gesundheit und die Umwelt durch Ozonabbau in der äußeren Atmosphäre.

EUH-Sätze

Ergänzende Gefahrenmerkmale

EUH001
In trockenem Zustand explosionsgefährlich.**EUH006**
Mit und ohne Luft explosionsfähig.
EUH014
Reagiert heftig mit Wasser.
EUH018
Kann bei Verwendung explosionsfähige/entzündbare Dampf/**Luft-Gemische bilden.**
EUH019
Kann explosionsfähige Peroxide bilden.
EUH029
Entwickelt bei Berührung mit Wasser giftige Gase.
EUH031
Entwickelt bei Berührung mit Säure giftige Gase.
EUH032
Entwickelt bei Berührung mit Säure sehr giftige Gase.
EUH044
Explosionsgefahr bei Erhitzen unter Einschluss.
EUH059
Die Ozonschicht schädigend.
EUH066
Wiederholter Kontakt kann zu spröder oder rissiger Haut führen.
EUH070
Giftig bei Berührung mit den Augen.
EUH071
Wirkt ätzend auf die Atemwege.

P-Sätze

Sicherheitshinweise

P101
Ist ärztlicher Rat erforderlich, Verpackung oder Etikett bereithalten.
P102
Darf nicht in die Hände von Kindern gelangen.
P103
Vor Gebrauch Kennzeichnungsetikett lesen.
P201
Vor Gebrauch besondere Anweisungen einholen.
P202
Vor Gebrauch alle Sicherheitsratschläge lesen und verstehen.
P210
Von Hitze/Funken/offener Flamme/heißen Oberflächen fernhalten. Nicht rauchen.
P210a
Von Hitze fernhalten. Nicht rauchen.
P210b
Von Funken fernhalten. Nicht rauchen.
P210c
Von offener Flamme fernhalten. Nicht rauchen.
P210d
Von heißen Oberflächen fernhalten. Nicht rauchen.
P211
Nicht gegen offene Flamme oder andere Zündquelle sprühen.
P220
Von Kleidung/brennbaren Materialien fernhalten/entfernt aufbewahren.
P220a
Von Kleidung fernhalten.
P220b
Von brennbaren Materialien fernhalten.
P220c
Von Reduktionsmitteln, Schwermetallverbindungen, Säuren und Alkalien fernhalten.
P220d
Von oxidierenden und sauren Stoffen, sowie Schwermetallverbindungen fernhalten.
P220e
Von Eisen fernhalten.
P220f
Von Wasser fernhalten.
P220g
Von Säuren fernhalten.
P220h
Von Laugen fernhalten
P220i
Von Metallen fernhalten.
P220j
Von oxidierenden und sauren Stoffen fernhalten.
P220k
Von brennbaren organischen Substanzen fernhalten.
P220l
Von Säuren, Reduktionsmitteln und brennbaren Materialien fernhalten.
P221
Mischen mit brennbaren Stoffen unbedingt verhindern.
P222
Kontakt mit Luft nicht zulassen.
P223
Kontakt mit Wasser wegen heftiger Reaktion und möglichem Aufflammen unbedingt verhindern.
P230
Feucht halten mit ...
P230a
Feucht halten.
P231
Unter inertem Gas handhaben.
P232
Vor Feuchtigkeit schützen.
P233
Behälter dicht verschlossen halten.
P234
Nur im Originalbehälter aufbewahren.
P235
Kühl halten.
P240
Behälter und zu befüllende Anlage erden.
P241
Explosionsgeschützte elektrische Betriebsmittel/Lüftungsanlagen/Beleuchtung/verwenden
P242
Nur funkenfreies Werkzeug verwenden.
P243
Maßnahmen gegen elektrostatische Aufladungen treffen.
P244
Druckminderer frei von Fett und Öl halten.
P250
Nicht schleifen/stoßen/reiben.
P251
Behälter steht unter Druck: Nicht durchstechen oder verbrennen, auch nicht nach der Verwendung.
P260
Staub/Rauch/Gas/Nebel/Dampf/Aerosol nicht einatmen.
P260a
Staub nicht einatmen.
P260b
Rauch nicht einatmen.
P260c
Gas nicht einatmen.
P260d
Nebel nicht einatmen.
P260e
Dampf nicht einatmen.
P260f
Aerosol nicht einatmen.
P260g
Nebel/Dampf/Aerosol nicht einatmen.
P261
Einatmen von Staub/Rauch/Gas/Nebel/Dampf/Aerosol vermeiden.
P261a
Einatmen von Staub vermeiden.
P261b
Einatmen von Rauch vermeiden.
P261c
Einatmen von Gas vermeiden.
P261d
Einatmen von Nebel vermeiden.
P261e
Einatmen von Dampf vermeiden.
P261f
Einatmen von Aerosol vermeiden.
P261g
Einatmen von Nebel/Dampf/Aerosol vermeiden.
P262
Nicht in die Augen, auf die Haut oder auf die Kleidung gelangen lassen.
P263
Kontakt während der Schwangerschaft/und der Stillzeit vermeiden.
P264
Nach Gebrauch gründlich waschen.
P270
Bei Gebrauch nicht essen, trinken oder rauchen.
P271
Nur im Freien oder in gut belüfteten Räumen verwenden.
P272
Kontaminierte Arbeitskleidung nicht außerhalb des Arbeitsplatzes tragen.
P273
Freisetzung in die Umwelt vermeiden.
P280
Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.
P280a
Schutzhandschuhe und Augenschutz / Gesichtsschutz tragen.
P280b
Schutzhandschuhe und Augenschutz tragen.

P280c
Schutzhandschuhe und Gesichtsschutz tragen.
P280d
Schutzkleidung und Augenschutz tragen.
P280e
Schutzkleidung und Gesichtsschutz tragen.
P280f
Schutzkleidung tragen.
P280g
Schutzhandschuhe tragen.
P280h
Schutzhandschuhe / Schutzkleidung tragen.
P280i
Augenschutz / Gesichtsschutz tragen.
P280j
Gesichtsschutz tragen.
P282
Schutzhandschuhe/Gesichtsschild/Augenschutz mit Kälteisolierung tragen.
P283 Schwer entflammbare/flammhemmende Kleidung tragen.
P284
Atemschutz tragen.
P231
Unter inertem Gas handhaben. Vor Feuchtigkeit schützen.
P232
Unter inertem Gas handhaben. Vor Feuchtigkeit schützen.
P235
Kühl halten. Vor Sonnenbestrahlung schützen.
P410
Kühl halten. Vor Sonnenbestrahlung schützen.
P301
BEI VERSCHLUCKEN:
P302
BEI BERÜHRUNG MIT DER HAUT:
P303
BEI BERÜHRUNG MIT DER HAUT (oder dem Haar):
P304
BEI EINATMEN:
P305
BEI KONTAKT MIT DEN AUGEN:
P306
BEI KONTAMINIERTER KLEIDUNG:
P308
BEI Exposition oder falls betroffen
P310
Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P311
GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P312
Bei Unwohlsein GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P313
Ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.
P314
Bei Unwohlsein ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.
P315
Sofort ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.
P320
Besondere Behandlung dringend erforderlich (siehe ... auf diesem Kennzeichnungsetikett).
P321
Besondere Behandlung (siehe ... auf diesem Kennzeichnungsetikett).
P330
Mund ausspülen.
P331
KEIN Erbrechen herbeiführen.
P332
Bei Hautreizung:
P333
Bei Hautreizung oder -ausschlag:
P334
In kaltes Wasser tauchen/nassen Verband anlegen.
P335
Lose Partikel von der Haut abbürsten.
P336
Vereiste Bereiche mit lauwarmem Wasser auftauen. Betroffenen Bereich nicht reiben.
P337
Bei anhaltender Augenreizung:
P338
Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter ausspülen.
P340
Die betroffene Person an die frische Luft bringen und in einer Position ruhigstellen, die das Atmen erleichtert.
P342
Bei Symptomen der Atemwege:
P351
Einige Minuten lang behutsam mit Wasser ausspülen.
P352
Mit viel Wasser und Seife waschen.
P353
Haut mit Wasser abwaschen/duschen.
P360
Kontaminierte Kleidung und Haut sofort mit viel Wasser abwaschen und danach Kleidung ausziehen.
P361
Alle kontaminierten Kleidungsstücke sofort ausziehen.
P362
Kontaminierte Kleidung ausziehen und vor erneutem Tragen waschen.
P363
Kontaminierte Kleidung vor erneutem Tragen waschen.
P364
Und vor erneutem Tragen waschen.
P370
Bei Brand:
P371
Bei Großbrand und großen Mengen:
P372
Explosionsgefahr bei Brand.
P373
KEINE Brandbekämpfung, wenn das Feuer explosive Stoffe/Gemische/Erzeugnisse erreicht.**P374**
Brandbekämpfung mit üblichen Vorsichtsmaßnahmen aus angemessener Entfernung.
P375
Wegen Explosionsgefahr Brand aus der Entfernung bekämpfen.
P376
Undichtigkeit beseitigen, wenn gefahrlos möglich.
P377
Brand von ausströmendem Gas:
Nicht löschen, bis Undichtigkeit gefahrlos beseitigt werden kann.
P378
... zum Löschen verwenden.
P378a
Zum Löschen verwenden: CO_2, Löschpulver oder Wassersprühstrahl.
P378b
Zum Löschen verwenden: Spezialpulver für Metallbrände.
P378c
Zum Löschen verwenden: CO_2, Sand, Löschpulver.
P378d
Zum Löschen verwenden: Wasser.
P378e
Zum Löschen verwenden: Wassernebel.
P378f
Zum Löschen verwenden: Wassersprühstrahl.
P378g
Zum Löschen verwenden: Schaum.
P378h
Zum Löschen verwenden: Alkoholbeständiger Schaum.
P378i
Zum Löschen verwenden: Löschpulver.
P378j
Zum Löschen verwenden: BC-Pulver.
P378k
Zum Löschen verwenden: ABC-Pulver.
P378l
Zum Löschen verwenden: Kohlendioxid.
P378m
Zum Löschen verwenden: Kalksteinpulver.
P378n
Zum Löschen verwenden: Zement.
P378o
Zum Löschen verwenden: Sand.
P378p
Zum Löschen verwenden: Trockener Sand.
P380
Umgebung räumen.
P381
Alle Zündquellen entfernen, wenn gefahrlos möglich.
P390
Verschüttete Mengen aufnehmen, um Materialschäden zu vermeiden.
P391
Verschüttete Mengen aufnehmen.
P301 + P310
BEI VERSCHLUCKEN: Sofort GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P301 + P312
BEI VERSCHLUCKEN: Bei Unwohlsein GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P301 + P330 + P331
BEI VERSCHLUCKEN: Mund ausspülen. KEIN Erbrechen herbeiführen.
P302 + P334
BEI KONTAKT MIT DER HAUT: In kaltes Wasser tauchen/nassen Verband anlegen.
P302 + P352
BEI KONTAKT MIT DER HAUT: Mit viel Wasser und Seife waschen.
P303 + P361 + P353
BEI KONTAKT MIT DER HAUT (oder dem Haar): Alle beschmutzten, getränkten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen/duschen.
P304 + P312
BEI EINATMEN: Bei Unwohlsein GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P304 + P340
BEI EINATMEN: An die frische Luft bringen und in einer Position ruhigstellen, die das Atmen erleichtert.
P305 + P351 + P338
BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.
P306 + P360
BEI KONTAKT MIT DER KLEIDUNG: Kontaminierte Kleidung und Haut sofort mit viel Wasser abwaschen und danach Kleidung ausziehen.
P308 + P313
BEI Exposition oder falls betroffen: Ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.
P231+P232
Unter inertem Gas handhaben. Vor Feuchtigkeit schützen.
P332 + P313
Bei Hautreizung: Ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.
P333 + P313
Bei Hautreizung oder -ausschlag: Ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.
P335 + P334
Lose Partikel von der Haut abbürsten. In kaltes Wasser tauchen/ nassen Verband anlegen.
P235+P410
Kühl halten. Vor Sonnenbestrahlung schützen.
P337 + P313
Bei anhaltender Augenreizung: Ärztlichen Rat einholen/ärztliche Hilfe hinzuziehen.
P342 + P311
Bei Symptomen der Atemwege: GIFTINFORMATIONSZENTRUM oder Arzt anrufen.
P361+P364
Alle kontaminierten Kleidungsstücke sofort ausziehen und vor erneutem Tragen waschen.
P362+P364
Kontaminierte Kleidung ausziehen und vor erneutem Tragen waschen.
P370 + P376
Bei Brand: Undichtigkeit beseitigen, wenn gefahrlos möglich.
P370 + P378
Bei Brand: ... zum Löschen verwenden.
P370+P378a
Bei Brand: Zum Löschen verwenden: CO_2, Löschpulver oder Wassersprühstrahl.
P370+P378b
Bei Brand: Zum Löschen verwenden: Spezialpulver für Metallbrände.
P370+P378c
Bei Brand: Zum Löschen verwenden: CO_2, Sand, Löschpulver.
P370+P378d
Bei Brand: Zum Löschen verwenden: Wasser.
P370+P378e
Bei Brand: Zum Löschen verwenden: Wassernebel.
P370+P378f
Bei Brand: Zum Löschen verwenden: Wassersprühstrahl.
P370+P378g
Bei Brand: Zum Löschen verwenden: Schaum.
P370+P378h
Bei Brand: Zum Löschen verwenden: Alkoholbeständiger Schaum.
P370+P378i
Bei Brand: Zum Löschen verwenden: Löschpulver.
P370+P378j
Bei Brand: Zum Löschen verwenden: BC-Pulver.
P370+P378k
Bei Brand: Zum Löschen verwenden: ABC-Pulver.
P370+P378l
Bei Brand: Zum Löschen verwenden: Kohlendioxid.
P370+P378m
Bei Brand: Zum Löschen verwenden: Kalksteinpulver.
P370+P378n
Bei Brand: Zum Löschen verwenden: Zement.
P370+P378o
Bei Brand: Zum Löschen verwenden: Sand.
P370+P378p
Bei Brand: Zum Löschen verwenden: Trockener Sand.
P370 + P380
Bei Brand: Umgebung räumen.
P370 + P380 + P375
Bei Brand: Umgebung räumen. Wegen Explosionsgefahr Brand aus der Entfernung bekämpfen.

P371 + P380 + P375
Bei Großbrand und großen Mengen: Umgebung räumen. Wegen Explosionsgefahr Brand aus der Entfernung bekämpfen.
P401
... aufbewahren.
P401a
Gemäß örtlicher/regionaler/nationaler/internationaler Vorschrift lagern.
P402
An einem trockenen Ort aufbewahren.
P403
An einem gut belüfteten Ort aufbewahren.
P404
In einem geschlossenen Behälter aufbewahren.
P405
Unter Verschluss aufbewahren.
P406
In korrosionsbeständigem Behälter mit korrosionsbeständiger Auskleidung aufbewahren.
P407
Luftspalt zwischen Stapeln/Paletten lassen.
P410
Vor Sonnenbestrahlung schützen.
P411
Bei Temperaturen von nicht mehr als ... °C/... °F aufbewahren.
P411a
Bei Temperaturen von nicht mehr als ...°C aufbewahren.
P411b
Bei Temperaturen von nicht mehr als... °F aufbewahren.
P412
Nicht Temperaturen von mehr als 50 °C aussetzen.
P413
Schüttgut in Mengen von mehr als ... kg/ ...lbs bei Temperaturen von nicht mehr als ... °C/ ...°F aufbewahren
P413a
Schüttgut in Mengen von mehr als ... kg bei Temperaturen von nicht mehr als ... °C aufbewahren.
P413b
Schüttgut in Mengen von mehr als ...lbs bei Temperaturen von nicht mehr als ...°F aufbewahren.
P420
Von anderen Materialien entfernt aufbewahren.
P420a
Von Lebensmitteln getrennt lagern.
P420b
Von brennbaren Stoffen getrennt lagern.
P420c
Von Oxidationsmitteln getrennt lagern.
P420d
Von Reduktionsmitteln getrennt lagern.
P420e
Von Wasser getrennt lagern.
P420f
Von Metallen getrennt lagern.
P420g
Von Säuren getrennt lagern.
P420h
Von Laugen getrennt lagern.
P422
Inhalt in/unter ... aufbewahren
P422a
Inhalte unter Inertgas aufbewahren.
P422b
Inhalte unter Schutzgas aufbewahren.
P422c
Inhalte unter Lösemittel aufbewahren.
P422d
Unter Wasser aufbewahren.
P422e
Unter Petroleum aufbewahren.
P422f
Unter Stickstoff aufbewahren.
P402 + P404
In einem geschlossenen Behälter an einem trockenen Ort aufbewahren.
P403+P233
Behälter dicht verschlossen an einem gut belüfteten Ort aufbewahren.
P403+P235
Kühl an einem gut belüfteten Ort aufbewahren.
P410+P403
Vor Sonnenbestrahlung geschützt an einem gut belüfteten Ort aufbewahren.
P410+P412
Vor Sonnenbestrahlung schützen und nicht Temperaturen von r als 50 °C aussetzen.
P411+P235
Kühl und bei Temperaturen von nicht mehr als ...°C/ ...°F aufbewahren.
P411a+P235
Kühl und bei Temperaturen von nicht mehr als ...°C aufbewahren.
P411b+P235
Kühl und bei Temperaturen von nicht mehr als ...°F aufbewahren.

P501
Inhalt/Behälter ... zuführen.
P501a
Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen/ internationalen Vorschriften.
P502
Informationen zur Wiederverwendung/Wiederverwertung beim Hersteller/Lieferanten erfragen

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Danger		GHS01	H200, H201, H202, H203 H240 H241
Warnng		GHS01	H204
Danger		GHS02	H220, H222, H224 H225 , H228, H229 H241, H242 H250, H251, H260, H261
Warning		GHS02	H223 , H226, H228, H229 H242, H252, H261
Warning	No Pictogram		H221, H229
Danger		GHS03	H270, H271, H272
Warning		GHS03	H272
Warning		GHS04	H280, H281
Danger		GHS06	H300, H310, H330 H301, H311, H331
Warning		GHS07	H302, H312, H332
Danger		GHS08	H340, H350, H360, H370 H372, H334, H304
Warning		GHS08	H341, H351, H361, H371 H373
Danter		GHS05	H314, H318
Warning		GHS05	H290
Warning		GHS07	H315, H319, H317, H335, H336, H420
Warning		GHS09	H400, H410
No Signal Word		GHS09	H411

The GHS regulation resp. CLP (regulation on Classification, Labeling and Packaging of Substances and Mixtures) regulation (EG) No 1272/2008 has become effective on 20th January 2009.

This regulation will amend and repeal Directives 67/548/EEC and 1999/45/EC over a period of a few years, and amend Regulation (EC) No 1907/2006. It's the aim of this regulation to ensure a high level of protection of human health and the environment. In addition it is essential to harmonize the provisions and criteria for the classification and labeling of substances and mixtures.

With this information we would like to give our customers an insight into the new systematic and simultaneously provide an opportunity to become acquainted with the new pictograms as well as with the H (hazard warnings)- and P (safety information) codes.

H-Codes

Hazard statements for physical hazards

H200
Unstable explosives.
H201
Explosive; mass explosion hazard.
H202
Explosive, severe projection hazard.
H203
Explosive; fire, blast or projection hazard.
H204
Fire or projection hazard.
H205
May mass explode in fire.
H220
Extremely flammable gas.
H221
Flammable gas.
H222
Extremely flammable aerosol.
H223
Flammable aerosol.
H224
Extremely flammable liquid and vapour.
H225
Highly flammable liquid and vapour.
H226
Flammable liquid and vapour.
H227
Combustible liquid.
H228
Flammable solid.
H229
Pressurised container: May burst if heated.
H230
May react explosively even in the absence of air.
H231
May react explosively even in the absence of air at elevated pressure and / or temperature.
H240
Heating may cause an explosion.
H241
Heating may cause a fire or explosion.
H242
Heating may cause a fire.
H250
Catches fire spontaneously if exposed to air.
H251
Self-heating: may catch fire.
H252
Self-heating in large quantities; may catch fire.
H260
In contact with water releases flammable gases which may ignite spontaneously.
H261
In contact with water releases flammable gases.
H270
May cause or intensify fire; oxidiser.
H271
May cause fire or explosion; strong oxidiser.
H272
May intensify fire; oxidiser.
H280
Contains gas under pressure; may explode if heated.
H281
Contains refrigerated gas; may cause cryogenic burns or injury.
H290
May be corrosive to metals.

Hazard statements for health hazards

H300
Fatal if swallowed.
H301
Toxic if swallowed.
H302
Harmful if swallowed.
H303
May be harmful if swallowed.
H304
May be fatal if swallowed and enters airways.
H305
May be harmful if swallowed and enters airways.
H310
Fatal in contact with skin.
H311
Toxic in contact with skin.
H312
Harmful in contact with skin.
H313
May be harmful in contact with skin.
H314
Causes severe skin burns and eye damage.
H315
Causes skin irritation.
H316
Causes mild skin irritation.
H317
May cause an allergic skin reaction.
H318
Causes serious eye damage.
H319
Causes serious eye irritation.
H320
Causes eye irritation.
H330
Fatal if inhaled.
H331
Toxic if inhaled.
H332
Harmful if inhaled.
H333
May be harmful if inhaled.
H334
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335
May cause respiratory irritation.
H336
May cause drowsiness or dizziness.
H340
May cause genetic defects.
H341
Suspected of causing genetic defects.
H350
May cause cancer.
H350i
May cause cancer by inhalation.
H351
Suspected of causing cancer.
H351i
Suspected of causing cancer by inhalation.
H360
May damage fertility or the unborn child.
H360D
May damage the unborn child.
H360Df
May damage the unborn child. Suspected of damaging fertility.
H360F
May damage fertility.
H360FD
May damage fertility. May damage the unborn child.
H360Fd
May damage fertility. Suspected of damaging the unborn child.
H361
Suspected of damaging fertility or the unborn child.
H361d
Suspected of damaging the unborn child.
H361f
Suspected of damaging fertility.
H361fd
Suspected of damaging fertility. Suspected of damaging the unborn child.
H362
May cause harm to breast-fed children.
H370
Causes damage to organs .
H371
May cause damage to organs.
H372
Causes damage to organs.
H373
May cause damage to organs through prolonged or repeated exposure.

H300+H310
Fatal if swallowed or in contact with skin.
H300+H310+H330
Fatal if swallowed, in contact with skin or if inhaled.
H300+H330
Fatal if swallowed or if inhaled.
H301+H311
Toxic if swallowed or in contact with skin.
H301+H311+H331
Toxic if swallowed, in contact with skin or if inhaled.
H301+H331
Toxic if swallowed or if inhaled.
H302+H312
Harmful if swallowed or in contact with skin.
H302+H312+H332
Harmful if swallowed, in contact with skin or if inhaled.
H302+H332
Harmful if swallowed or if inhaled.
H303+H313
May be harmful if swallowed or in contact with skin.
H303+H313+H333
May be harmful if swallowed, in contact with skin or if inhaled.
H303+H333
May be harmful if swallowed or if inhaled.
H310+H330
Fatal in contact with skin or if inhaled.
H311+H331
Toxic in contact with skin or if inhaled.
H312+H332
Harmful in contact with skin or if inhaled.
H313+H333
May be harmful in contact with skin or if inhaled.
H315+H320
Causes skin and eye irritation.

Hazard statements for environmental hazards

H400
Very toxic to aquatic life.
H401
Toxic to aquatic life.
H402
Harmful to aquatic life.
H410
Very toxic to aquatic life with long lasting effects.
H411
Toxic to aquatic life with long lasting effects.
H412
Harmful to aquatic life with long lasting effects.
H413
May cause long lasting harmful effects to aquatic life.
H420
Harms public health and the environment by destroying ozone in the upper atmosphere

EUH-Codes

Supplemental hazard informations

EUH 001
Explosive when dry.
EUH 006
Explosive with or without contact with air.
EUH 014
Reacts violently with water.
EUH 018
In use may form flammable/explosive vapour-air mixture.
EUH 019
May form explosive peroxides.
EUH029
Contact with water liberates toxic gas.
EUH031
Contact with acids liberates toxic gas.
EUH032
Contact with acids liberates very toxic gas.
EUH 044
Risk of explosion if heated under confinement.
EUH 059
Hazardous to the ozone layer.
EUH 066
Repeated exposure may cause skin dryness or cracking.
EUH 070
Toxic by eye contact.
EUH 071
Corrosive to the respiratory tract.

P-Codes

P101
If medical advice is needed, have product container or label at hand.
P102
Keep out of reach of children.
P103
Read label before use.
P201
Obtain special instructions before use.
P202
Do not handle until all safety precautions have been read and understood.
P210
Keep away from heat/sparks/open flames/hot surfaces. ... No smoking.
P210a
Keep away from heat. - No smoking.
P210b
Keep away from sparks. - No smoking.
P210c
Keep away from open flames. - No smoking.
P210d
Keep away from hot surfaces. - No smoking.
P211
Do not spray on an open flame or other ignition source.
P220
Keep/Store away from clothing/.../combustible materials.
P220a
Keep away from clothing.
P220b
Keep away from combustible materials.
P220c
Keep away from reducing agents, heavy metal compounds, acids and alkalis.
P220d
Keep away from oxidising and acidic substances, as well as heavy metal compounds.
P220e
Keep away from iron.
P220f
Keep away from water.
P220g
Keep away from acids.
P220h
Keep away from alkaline solutions.
P220i
Keep away from metals.
P220j
Keep away from oxidising agents and acidic substances.
P220k
Keep away from flammable organic substances.
P220l
Keep away from acids, reducing agents and flammable materials.
P221
Take any precaution to avoid mixing with combustibles...
P222
Do not allow contact with air.
P223
Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P230
Keep wetted with...
P230a
Keep wetted.
P231
Handle under inert gas.
P232
Protect from moisture.
P233
Keep container tightly closed.
P234
Keep only in original container.
P235
Keep cool.
P240
Ground/bond container and receiving equipment.
P241
Use explosion-proof electrical/ventilating/lighting/.../ equipment.
P242
Use only non-sparking tools.
P243
Take precautionary measures against static discharge.
P244
Keep reduction valves free from grease and oil.
P250
Do not subject to grinding/shock/.../friction.
P251
Pressurized container: Do not pierce or burn, even after use.
P260
Do not breathe dust/fume/gas/mist/vapours/spray.
P260a
Do not breathe dust.
P260b
Do not breathe fume.
P260c
Do not breathe gas.
P260d
Do not breathe mist.
P260e
Do not breathe vapours.
P260f
Do not breathe spray.
P260g
Do not breathe mist/vapours/spray.
P261
Avoid breathing dust/fume/gas/mist/vapours/spray.
P261a
Avoid breathing dust.
P261b
Avoid breathing fume.
P261c
Avoid breathing gas.
P261d
Avoid breathing mist.
P261e
Avoid breathing vapours.
P261f
Avoid breathing spray.
P261g
Avoid breathing mist/vapours/spray.
P262
Do not get in eyes, on skin, or on clothing.
P263
Avoid contact during pregnancy/while nursing.
P264
Wash ... thoroughly after handling.
P270
Do no eat, drink or smoke when using this product.
P271
Use only outdoors or in a well-ventilated area.
P272
Contaminated work clothing should not be allowed out of the workplace.
P273
Avoid release to the environment.
P280
Wear protective gloves/protective clothing/eye protection/ face protection.
P280a
Wear protective gloves / eye protection / face protection.
P280b
Wear protective gloves / eye protection.
P280c
Wear protective gloves / face protection.
P280d
Wear protective clothing / eye protection.
P280e
Wear protective clothing / face protection.
P280f
Wear protective clothing.
P280g
Wear protective gloves.
P280h
Wear protective gloves / protective clothing.
P280i
Wear protective gloves / protective clothing.
P280j
Wear face protection.
P282
Wear cold insulating gloves/face shield/eye protection.
P283
Wear fire/flame resistant/retardant clothing.
P284
Wear respiratory protection.
P301
IF SWALLOWED:
P302
IF ON SKIN:
P303
IF ON SKIN (or hair):
P304
IF INHALED:
P305
IF IN EYES:
P306
IF ON CLOTHING:
P308
IF exposed or concerned:
P310
Immediately call a POISON CENTER or doctor/physician.
P311
Call a POISON CENTER or doctor/physician.
P312
Call a POISON CENTER or doctor/physician if you feel unwell.
P313
Get medical advice/attention.
P314
Get medical advice/attention if you feel unwell.
P315
Get immediate medical advice/attention.
P320
Specific treatment is urgent (see ... on this label).
P321
Specific treatment (see ... on this label).
P330
Rinse mouth.
P331
Do NOT induce vomiting.

P332
If skin irritation occurs:
P333
If skin irritation or rash occurs:
P334
Immerse in cool water/wrap in wet bandages.
P335
Brush off loose particles from skin.
P336
Thaw frosted parts with lukewarm water. Do no rub affected area.
P337
If eye irritation persists:
P338
Remove contact lenses, if present and easy to do. Continue rinsing.
P340
Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342
If experiencing respiratory symptoms:
P351
Rinse cautiously with water for several minutes.
P352
Wash with plenty of soap and water.
P353
Rinse skin with water/shower.
P360
Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P361
Remove/Take off immediately all contaminated clothing.
P362
Take off contaminated clothing and wash before reuse.
P363
Wash contaminated clothing before reuse.
P364
And wash it before reuse.
P370
In case of fire:
P371
In case of major fire and large quantities:
P372
Explosion risk in case of fire.
P373
DO NOT fight fire when fire reaches explosives.
P374
Fight fire with normal precautions from a reasonable distance
P375
Fight fire remotely due to the risk of explosion.
P376
Stop leak if safe to do so.
P377
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P378
Use ... for extinction.
P378a
Use for extinction: CO_2, powder or water spray.
P378b
Use for extinction: Special powder for metal fires.
P378c
Use for extinction: CO_2, sand, extinguishing powder.
P378d
Use for extinction: Water.
P378e
Use for extinction: Water haze.
P378f
Use for extinction: Water spray.
P378g
Use for extinction: Foam.
P378h
Use for extinction: Alcohol resistant foam.
P378i
Use for extinction: Fire-extinguishing powder.
P378j
Use for extinction: BC powder.
P378k
Use for extinction: ABC powder.
P378l
Use for extinction: Carbon dioxide.
P378m
Use for extinction: Limestone powder.
P378n
Use for extinction: Cement.
P378o
Use for extinction: Sand.
P378p
Use for extinction: Dry sand.
P380
Evacuate area.
P381
Eliminate all ignition sources if safe to do so.
P390
Absorb spillage to prevent material damage.
P391
Collect spillage.

P231+P232
Handle under inert gas. Protect from moisture.
P235+P410
Keep cool. Protect from sunlight.
P301 + P310
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301 + P312
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P330 + P331
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302 + P334
IF ON SKIN: Immerse in cool water/wrap in wet bandages.
P302 + P352
IF ON SKIN: Wash with plenty of soap and water.
P303 + P361 + P353
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P312
IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304 + P340
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P306 + P360
IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P307 + P311
IF exposed: Call a POISON CENTER or doctor/physician.
P308 + P313
IF exposed or concerned: Get medical advice/attention.
P332 + P313
If skin irritation occurs: Get medical advice/attention.
P333 + P313
If skin irritation or rash occurs: Get medical advice/attention.
P335 + P334
Brush off loose particles from skin. Immerse in cool water/ wrap in wet bandages.
P337 + P313
If eye irritation persists: Get medical advice/attention.
P342 + P311
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P361+P364
Take off immediately all contaminated clothing and wash it before reuse.
P362+P364
Take off contaminated clothing and wash it before reuse.
P370 + P376
In case of fire: Stop leak if safe to do so.
P370 + P378
In case of fire: Use ... for extinction.
P370+P378a
In case of fire: Use for extinction: CO_2, powder or water spray.
P370+P378b
In case of fire: Use for extinction: Special powder for metal fires.
P370+P378c
In case of fire: Use for extinction: CO_2, sand, extinguishing powder.
P370+P378d
In case of fire: Use for extinction: Water.
P370+P378e
In case of fire: Use for extinction: Water haze.
P370+P378f
In case of fire: Use for extinction: Water spray.
P370+P378g
In case of fire: Use for extinction: Foam.
P370+P378h
In case of fire: Use for extinction: Alcohol resistant foam.
P370+P378i
In case of fire: Use for extinction: Fire-extinguishing powder.
P370+P378j
In case of fire: Use for extinction: BC powder.
P370+P378k
In case of fire: Use for extinction: ABC powder.
P370+P378l
In case of fire: Use for extinction: Carbon dioxide.
P370+P378m
In case of fire: Use for extinction: Limestone powder.
P370+P378n
In case of fire: Use for extinction: Cement.
P370+P378o
In case of fire: Use for extinction: Sand.
P370+P378p
In case of fire: Use for extinction: Dry sand.
P370 + P380
In case of fire: Evacuate area.
P370 + P380 + P375
In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

P371 + P380 + P375
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P401
Store ...
P401a
Store in accordance with local/regional/national/international regulations.
P402
Store in a dry place.
P403
Store in a well-ventilated place.
P404
Store in a closed container.
P405
Store locked up.
P406
Store in corrosive resistant/... container with a resistant inner liner.
P407
Maintain air gap between stacks/pallets.
P410
Protect from sunlight.
P411
Store at temperatures not exceeding ... °C/...°F.
P411a
Store at temperatures not exceeding... °C.
P411b
Store at temperatures not exceeding... °F.
P412
Do not expose to temperatures exceeding 50 °C/122 °F.
P413
Store bulk masses greater than ... kg/... lbs at temperatures not exceeding ... °C/...°F.
P413a
Store bulk masses greater than ...kg at temperatures not exceeding ...°C.
P413b
Store bulk masses greater than ...lbs at temperatures not exceeding ...°F.
P420
Store away from other materials.
P420a
Store away from foodstuffs.
P420b
Store away from flammable substances.
P420c
Store away from oxidizing agents.
P420d
Store away from reducing agents.
P420e
Store away from water.
P420f
Store away from metals.
P420g
Store away from acids.
P420h
Store away from caustic solutions.
P422
Store contents under ...
P422a
Store contents under inert gas.
P422b
Store contents under protective gas.
P422c
Store contents under solvent.
P422d
Store under water.
P422e
Store in petroleum.
P422f
Store in nitrogen.
P402 + P404
Store in a dry place. Store in a closed container.
P403 + P233
Store in a well-ventilated place. Keep container tightly closed.
P403 + P235
Store in a well-ventilated place. Keep cool.
P410 + P403
Protect from sunlight. Store in a well-ventilated place.
P410 + P412
Protect from sunlight. Do no expose to temperatures exceeding 50 °C/122 °F.
P411 + P235
Store at temperatures not exceeding ... °C/... °F. Keep cool.
P411a+P235
Store at temperatures not exceeding ...°C. Keep cool.
P411b+P235
Store at temperatures not exceeding ...°F. Keep cool.
P501
Dispose of contents/container to ...
P501a
Dispose of contents/container in accordance with local/ regional/national/international regulations.
P502
Refer to manufacturer/supplier for information on recovery/ recycling.

Système général harmonisé de classification et d'étiquetage des produits chimiques. (SGH)

Danger		GHS01	H200, H201, H202, H203 H240 H241
Attention		GHS01	H204
Danger		GHS02	H220, H222, H224 H225 , H228, H229 H241, H242 H250, H251, H260, H261
Attention		GHS02	H223 , H226, H228, H229 H242, H252, H261
Attention	Pas de Picto-gramme		H221, H229
Danger		GHS03	H270, H271, H272
Attention		GHS03	H272
Attention		GHS04	H280, H281
Danger		GHS06	H300, H310, H330 H301, H311, H331
Attention		GHS07	H302, H312, H332
Danger		GHS08	H340, H350, H360, H370 H372, H334, H304
Attention		GHS08	H341, H351, H361, H371 H373
Danter		GHS05	H314, H318
Attention		GHS05	H290
Attention		GHS07	H315, H319, H317, H335, H336, H420
Attention		GHS09	H400, H410
Pas de mention d'avertissement		GHS09	H411

The GHS regulation resp. CLP (regulation on Classification, Labeling and Packaging of Substances and Mixtures) regulation (EG) No 1272/2008 has become effective on 20th January 2009.

This regulation will amend and repeal Directives 67/548/EEC and 1999/45/EC over a period of a few years, and amend Regulation (EC) No 1907/2006. It's the aim of this regulation to ensure a high level of protection of human health and the environment. In addition it is essential to harmonize the provisions and criteria for the classification and labeling of substances and mixtures.

With this information we would like to give our customers an insight into the new systematic and simultaneously provide an opportunity to become acquainted with the new pictograms as well as with the H (hazard warnings)- and P (safety information) codes.

H - Codes

Des Mentions de danger des dangers physiques

H200
Explosif instable.
H201
Explosif; danger d'explosion en masse.
H202
Explosif; danger sérieux de projection.
H203
Explosif; danger d'incendie, d'effet de souffle ou de projection.
H204
Danger d'incendie ou de projection.
H205
Danger d'explosion en masse en cas d'incendie.
H220
Gaz extrêmement inflammable.
H221
Gaz inflammable.
H222
Aérosol extrêmement inflammable.
H223
Aérosol inflammable.
H224
Liquide et vapeurs extrêmement inflammables.
H225
Liquide et vapeurs très inflammables.
H226
Liquide et vapeurs inflammables.
H227
Liquide combustible.
H228
Matière solide inflammable.
H229
Récipient sous pression: peut éclater sous l'effet de la chaleur.
H230
Peut exploser même en l'absence d'air.
H231
Peut exploser même en l'absence d'air à une pression et/ou température élevée(s).
H240
Peut exploser sous l'effet de la chaleur.
H241
Peut s'enflammer ou exploser sous l'effet de la chaleur.
H242
Peut s'enflammer sous l'effet de la chaleur.
H250
S'enflamme spontanément au contact de l'air.
H251
Matière auto-échauffante; peut s'enflammer.
H252
Matière auto-échauffante en grandes quantités; peut s'enflammer.
H260
Dégage au contact de l'eau des gaz inflammables qui peuvent s'enflammer spontanément.
H261
Dégage au contact de l'eau des gaz inflammables.
H270
Peut provoquer ou aggraver un incendie; comburant.
H271
Peut provoquer un incendie ou une explosion; comburant puissant.
H272
Peut aggraver un incendie; comburant.
H280
Contient un gaz sous pression; peut exploser sous l'effet de la chaleur.
H281
Contient un gaz réfrigéré; peut causer des brûlures ou blessures cryogéniques.
H290
Peut être corrosif pour les métaux.

Des Mentions de danger des dangers pour la santé

H300
Mortel en cas d'ingestion.
H301
Toxique en cas d'ingestion.
H302
Nocif en cas d'ingestion.
H303
Peut être nocif en cas d'ingestion.
H304
Peut être mortel en cas d'ingestion et de pénétration dans les voies respiratoires.
H305
Peut être nocif en cas d'ingestion et de pénétration dans les voies respiratoires.
H310
Mortel par contact cutané.
H311
Toxique par contact cutané.
H312
Nocif par contact cutané.
H313
Peut être nocif par contact cutané.
H314
Provoque des brûlures de la peau et des lésions oculaires graves.
H315
Provoque une irritation cutanée.
H300+H310
Mortel par ingestion ou par contact cutané.
H300+H310+H330
Mortel par ingestion, par contact cutané ou par inhalation.
H300+H330
Mortel par ingestion ou par inhalation.
H301+H311
Toxique par ingestion ou par contact cutané.
H301+H311+H331
Toxique par ingestion, par contact cutané ou par inhalation.
H301+H331
Toxique par ingestion ou par inhalation.
H302+H312
Nocif en cas d'ingestion ou de contact cutané.
H302+H312+H332
Nocif en cas d'ingestion, de contact cutané ou d'inhalation.
H302+H332
Nocif en cas d'ingestion ou d'inhalation.
H303+H313
Peut être nocif en cas d'ingestion ou de contact cutané.
H303+H313+H333
Peut être nocif en cas d'ingestion, de contact cutané ou d'inhalation.
H303+H333
Peut être nocif en cas d'ingestion ou d'inhalation.
H310+H330
Mortel par contact cutané ou par inhalation.
H311+H331
Toxique par contact cutané ou par inhalation.
H312+H332
Nocif en cas de contact cutané ou d'inhalation.
H313+H333
Peut être nocif en cas de contact cutané ou d'inhalation.
H315+H320
Cause une irritation cutanée et oculaire.
H316
Provoque une légère irritation cutanée.
H317
Peut provoquer une allergie cutanée.
H318
Provoque des lésions oculaires graves.
H319
Provoque une sévère irritation des yeux.
H320
Provoque une irritation oculaire.
H330
Mortel par inhalation.
H331
Toxique par inhalation.
H332
Nocif par inhalation.
H333
Peut être nocif par inhalation.
H334
Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.
H335
Peut irriter les voies respiratoires.
H336
Peut provoquer somnolence ou vertiges.

H340
Peut induire des anomalies génétiques.
H341
Susceptible d'induire des anomalies génétiques.
H350
Peut provoquer le cancer.
H350i
Peut provoquer le cancer par inhalation.
H351
Susceptible de provoquer le cancer.
H351i
Susceptible de provoquer le cancer par inhalation.
H360
Peut nuire à la fertilité ou au fœtus.
H360D
Peut nuire au fœtus.
H360Df
Peut nuire au fœtus. Susceptible de nuire à la fertilité.
H360F
Peut nuire à la fertilité.
H360FD
Peut nuire à la fertilité. Peut nuire au fœtus.
H360Fd
Peut nuire à la fertilité. Susceptible de nuire au fœtus.
H361
Susceptible de nuire à la fertilité ou au fœtus.
H361d
Susceptible de nuire au fœtus.
H361f
Susceptible de nuire à la fertilité.
H361fd
Susceptible de nuire à la fertilité. Susceptible de nuire au fœtus.
H362
Peut être nocif pour les bébés nourris au lait maternel.
H370
Risque avéré d'effets graves pour les organes.
H371
Risque présumé d'effets graves pour les organes.
H372
Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.
H373
Risque présumé d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

Des Mentions de danger des dangers pour l'environnement

H400
Très toxique pour les organismes aquatiques.
H401
Toxique pour les organismes aquatiques.
H402
Nocif pour les organismes aquatiques.
H410
Très toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.
H411
Toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.
H412
Nocif pour les organismes aquatiques, entraîne des effets néfastes à long terme.
H413
Peut être nocif à long terme pour les organismes aquatiques.
H420
Nuit à la santé publique et à l'environnement en détruisant l'ozone dans la haute atmosphère

EUH - Codes

Des informations de dangers supplémentaires

EUH001
Explosif à l'état sec.
EUH006
Danger d'explosion en contact ou sans contact avec l'air.
EUH014
Réagit violemment au contact de l'eau.
EUH018
Lors de l'utilisation, formation possible de mélange vapeur-air inflammable/explosif.
EUH019
Peut former des peroxydes explosifs.
EUH029
Au contact de l'eau, dégage des gaz toxiques.
EUH031
Au contact d'un acide, dégage un gaz toxique.
EUH032
Au contact d'un acide, dégage un gaz très toxique.
EUH044
Risque d'explosion si chauffé en ambiance confinée.
EUH059
Dangereux pour la couche d'ozone.
EUH066
L'exposition répétée peut provoquer dessèchement ou gerçures de la peau.
EUH070
Toxique par contact oculaire.
EUH071
Corrosif pour les voies respiratoires.

P - Codes

P101
En cas de consultation d'un médecin, garder à disposition le récipient ou l'étiquette.
P102
Tenir hors de portée des enfants.
P103
Lire l'étiquette avant utilisation.
P201
Se procurer les instructions avant utilisation.
P202
Ne pas manipuler avant d'avoir lu et compris toutes les précautions de sécurité.
P210
Tenir à l'écart de la chaleur/des étincelles/des flammes nues/des surfaces chaudes. - Ne pas fumer.
P210a
Tenir à l'écart de la chaleur. - Ne pas fumer.
P210b
Tenir à l'écart des étincelles. - Ne pas fumer.
P210c
Tenir à l'écart des flammes nues. - Ne pas fumer.
P210d
Tenir à l'écart des surfaces chaudes. - Ne pas fumer.
P211
Ne pas vaporiser sur une flamme nue ou sur toute autre source d'ignition.
P220
Tenir/stocker à l'écart des vêtements/matières combustibles.
P220a
Tenir à l'écart des vêtements.
P220b
Tenir à l'écart des matières combustibles.
P220c
Tenir à l'écart des agents de réduction, des composés de métaux lourds, des acides et des alcalis.
P220d
Tenir à l'écart des matières oxydantes et acides ainsi que des composés de métaux lourds.
P220e
Tenir à l'écart du fer.
P220f
Tenir à l'écart de l'eau.
P220g
Tenir à l'écart des acides.
P220h
Tenir à l'écart des lessives alcalines.
P220i
Tenir à l'écart des métaux.
P220j
Tenir à l'écart des matières oxydantes et acides.
P220k
Tenir à l'écart des substances organiques inflammables.
P220l
Tenir à l'écart des acides, agents de réduction et matières inflammables.
P221
Prendre toutes précautions pour éviter de mélanger avec des matières combustibles.
P222
Ne pas laisser au contact de l'air.
P223
Éviter tout contact avec l'eau, à cause du risque de réaction violente et d'inflammation spontanée.
P230
Maintenir humidifié avec...
P230a
Maintenir humidifié.
P231
Manipuler sous gaz inerte.
P232
Protéger de l'humidité.
P233
Maintenir le récipient fermé de manière étanche.
P234
Conserver uniquement dans le récipient d'origine.
P235
Tenir au frais.
P240
Mise à la terre/liaison équipotentielle du récipient et du matériel de réception.
P241
Utiliser du matériel électrique/de ventilation/d'éclairage/antidéflagrant.
P242
Ne pas utiliser d'outils produisant des étincelles.
P243
Prendre des mesures de précaution contre les décharges électrostatiques.
P244
S'assurer de l'absence de graisse ou d'huile sur les soupapes de réduction.
P250
Éviter les abrasions/les chocs/les frottements.
P251
Récipient sous pression: ne pas perforer, ni brûler, même après usage.
P260
Ne pas respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
P260a
Ne pas respirer les poussières.
P260b
Ne pas respirer les fumées.
P260c
Ne pas respirer les gaz.
P260d
Ne pas respirer les brouillards.
P260e
Ne pas respirer les vapeurs.
P260f
Ne pas respirer les aérosols.
P260g
Ne pas respirer les brouillards/vapeurs/aérosols.
P261
Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
P261a
Éviter de respirer les poussières.
P261b
Éviter de respirer les fumées.
P261c
Éviter de respirer les gaz.
P261d
Éviter de respirer les brouillards.
P261e
Éviter de respirer les vapeurs.
P261f
Éviter de respirer les aérosols.
P261g
Éviter de respirer les brouillards/vapeurs/aérosols.
P262
Éviter tout contact avec les yeux, la peau ou les vêtements.
P263
Éviter tout contact avec la substance au cours de la grossesse/pendant l'allaitement.
P264
Se laver soigneusement après manipulation.
P270
Ne pas manger, boire ou fumer en manipulant ce produit.
P271
Utiliser seulement en plein air ou dans un endroit bien ventilé.
P272
Les vêtements de travail contaminés ne devraient pas sortir du lieu de travail.
P273
Éviter le rejet dans l'environnement.
P280
Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.
P280a
Porter des gants de protection / un équipement de protection des yeux / un équipement de protection du visage.
P280b
Porter des gants de protection / un équipement de protection des yeux.
P280c
Porter des gants de protection / un équipement de protection du visage.
P280d
Porter des vêtements de protection / un équipement de protection des yeux.
P280e
Porter des vêtements de protection / un équipement de protection du visage.
P280f
Porter des vêtements de protection.
P280g
Porter des gants de protection.
P280h
Porter des gants de protection / des vêtements de protection.
P280i
Porter un équipement de protection des yeux / un équipement de protection du visage.
P280j
Porter un équipement de protection du visage.
P282
Porter des gants isolants contre le froid/un équipement de protection du visage/des yeux.
P283
Porter des vêtements résistant au feu/aux flammes/ignifuges.

P284
Porter un équipement de protection respiratoire.
P301
EN CAS D'INGESTION:
P302
EN CAS DE CONTACT AVEC LA PEAU:
P303
EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux):
P304
EN CAS D'INHALATION:
P305
EN CAS DE CONTACT AVEC LES YEUX:
P306
EN CAS DE CONTACT AVEC LES VÊTEMENTS:
P308
EN CAS d'exposition prouvée ou suspectée:
P310
Appeler immédiatement un CENTRE ANTIPOISON ou un médecin.
P311
Appeler un CENTRE ANTIPOISON ou un médecin.
P312
Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise.
P313
Consulter un médecin.
P314
Consulter un médecin en cas de malaise.
P315
Consulter immédiatement un médecin.
P320
Un traitement spécifique est urgent (voir sur cette étiquette).
P321
Traitement spécifique (voir sur cette étiquette).
P330
Rincer la bouche.
P331
NE PAS faire vomir.
P332
En cas d'irritation cutanée:
P333
En cas d'irritation ou d'éruption cutanée:
P334
Rincer à l'eau fraîche/poser une compresse humide.
P335
Enlever avec précaution les particules déposées sur la peau.
P336
Dégeler les parties gelées avec de l'eau tiède. Ne pas frotter les zones touchées.
P337
Si l'irritation oculaire persiste:
P338
Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
P340
Transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer.
P342
En cas de symptômes respiratoires:
P351
Rincer avec précaution à l'eau pendant plusieurs minutes.
P352
Laver abondamment à l'eau et au savon.
P353
Rincer la peau à l'eau/se doucher.
P360
Rincer immédiatement et abondamment avec de l'eau les vêtements contaminés et la peau avant de les enlever.
P361
Enlever immédiatement les vêtements contaminés.
P362
Enlever les vêtements contaminés et les laver avant réutilisation.
P363
Laver les vêtements contaminés avant réutilisation.
P364
Et les laver avant réutilisation.
P370
En cas d'incendie:
P371
En cas d'incendie important et s'il s'agit de grandes quantités:
P372
Risque d'explosion en cas d'incendie.
P373
NE PAS combattre l'incendie lorsque le feu atteint les explosifs.
P374
Combattre l'incendie à distance en prenant les précautions normales.
P375
Combattre l'incendie à distance à cause du risque d'explosion.
P376
Obturer la fuite si cela peut se faire sans danger.
P377
Fuite de gaz enflammé: Ne pas éteindre si la fuite ne peut pas être arrêtée sans danger.
P378
Utiliser ... pour l'extinction.
P378a
Utiliser pour l'extinction: CO_2, poudre d'extinction ou eau pulvérisée.
P378b
Utiliser pour l'extinction: Poudre spéciale pour incendies de métaux.
P378c
Utiliser pour l'extinction: CO_2, sable, poudre d'extinction.
P378d
Utiliser pour l'extinction: Eau.
P378e
Utiliser pour l'extinction: Brouillard d'eau.
P378f
Utiliser pour l'extinction: Eau pulvérisée.
P378g
Utiliser pour l'extinction: Mousse.
P378h
Utiliser pour l'extinction: Mousse résistant à l'alcool.
P378i
Utiliser pour l'extinction: Poudre d'extinction.
P378j
Utiliser pour l'extinction: Poudre BC.
P378k
Utiliser pour l'extinction: Poudre ABC.
P378l
Utiliser pour l'extinction: Dioxyde de carbone.
P378m
Utiliser pour l'extinction: Poudre de roche calcaire.
P378n
Utiliser pour l'extinction: Ciment.
P378o
Utiliser pour l'extinction: Sable.
P378p
Utiliser pour l'extinction: Sable sec.
P380
Évacuer la zone.
P381
Éliminer toutes les sources d'ignition si cela est faisable sans danger.
P390
Absorber toute substance répandue pour éviter qu'elle attaque les matériaux environnants.
P391
Recueillir le produit répandu.
P301+P310
EN CAS D'INGESTION: appeler immédiatement un CENTRE ANTIPOISON ou un médecin.
P301+P312
EN CAS D'INGESTION: appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise.
P301+P330+P331
EN CAS D'INGESTION: rincer la bouche. NE PAS faire vomir.
P302+P334
EN CAS DE CONTACT AVEC LA PEAU: rincer à l'eau fraîche/poser une compresse humide.
P302+P352
EN CAS DE CONTACT AVEC LA PEAU: laver abondamment à l'eau et au savon.
P303+P361+P353
EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): enlever immédiatement les vêtements contaminés. Rincer la peau à l'eau/se doucher.
P304+P312
EN CAS D'INHALATION: Appeler un CENTRE ANTIPOISON ou un médecin en cas de malaise.
P304+P340
EN CAS D'INHALATION: transporter la victime à l'extérieur et la maintenir au repos dans une position où elle peut confortablement respirer.
P305+P351+P338
EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
P306+P360
EN CAS DE CONTACT AVEC LES VÊTEMENTS: rincer immédiatement et abondamment avec de l'eau les vêtements contaminés et la peau avant de les enlever.
P308+P311
En cas d'exposition prouvée ou suspectée: Appeler un CENTRE ANTIPOISON/un médecin.
P308+P313
EN CAS d'exposition prouvée ou suspectée: consulter un médecin.
P231+P232
Manipuler sous gaz inerte. Protéger de l'humidité.
P332+P313
En cas d'irritation cutanée: consulter un médecin.
P333+P313
En cas d'irritation ou d'éruption cutanée: consulter un médecin.
P335+P334
Enlever avec précaution les particules déposées sur la peau. Rincer à l'eau fraîche/poser une compresse humide.
P235+P410
Tenir au frais. Protéger du rayonnement solaire.
P337+P313
Si l'irritation oculaire persiste: consulter un médecin.
P342+P311
En cas de symptômes respiratoires: appeler un CENTRE ANTIPOISON ou un médecin.
P361+P364
Enlever immédiatement tous les vêtements contaminés et les laver avant réutilisation.
P362+P364
Enlever les vêtements contaminés et les laver avant réutilisation.
P370+P376
En cas d'incendie: obturer la fuite si cela peut se faire sans danger.
P370+P378
En cas d'incendie: utiliser ... pour l'extinction.
P370+P378a
En cas d'incendie: Utiliser pour l'extinction: CO_2, poudre d'extinction ou eau pulvérisée.
P370+P378b
En cas d'incendie: Utiliser pour l'extinction: Poudre spéciale pour incendies de métaux.
P370+P378c
En cas d'incendie: Utiliser pour l'extinction: CO_2, sable, poudre d'extinction.
P370+P378d
En cas d'incendie: Utiliser pour l'extinction: Eau.
P370+P378e
En cas d'incendie: Utiliser pour l'extinction: Brouillard d'eau.
P370+P378f
En cas d'incendie: Utiliser pour l'extinction: Eau pulvérisée.
P370+P378g
En cas d'incendie: Utiliser pour l'extinction: Mousse.
P370+P378h
En cas d'incendie: Utiliser pour l'extinction: Mousse résistant à l'alcool.
P370+P378i
En cas d'incendie: Utiliser pour l'extinction: Poudre d'extinction.
P370+P378j
En cas d'incendie: Utiliser pour l'extinction: Poudre BC.
P370+P378k
En cas d'incendie: Utiliser pour l'extinction: Poudre ABC.
P370+P378l
En cas d'incendie: Utiliser pour l'extinction: Dioxyde de carbone.
P370+P378m
En cas d'incendie: Utiliser pour l'extinction: Poudre de roche calcaire.
P370+P378n
En cas d'incendie: Utiliser pour l'extinction: Ciment.
P370+P378o
En cas d'incendie: Utiliser pour l'extinction: Sable.
P370+P378p
En cas d'incendie: Utiliser pour l'extinction: Sable sec.
P370+P380
En cas d'incendie: évacuer la zone.
P370+P380+P375
En cas d'incendie: évacuer la zone. Combattre l'incendie à distance à cause du risque d'explosion.
P371+P380+P375
En cas d'incendie important et s'il s'agit de grandes quantités: évacuer la zone. Combattre l'incendie à distance à cause du risque d'explosion.
P401
Stocker ...
P401a
Stocker conformément à la réglementation locale/régionale/nationale/internationale.
P402
Stocker dans un endroit sec.
P403
Stocker dans un endroit bien ventilé.
P404
Stocker dans un récipient fermé.
P405
Garder sous clef.
P406
Stocker dans un récipient résistant à la corrosion/récipient en avec doublure intérieure résistant à la corrosion.
P407
Maintenir un intervalle d'air entre les piles/palettes.
P410
Protéger du rayonnement solaire.

P411
Stocker à une température ne dépassant pas... °C/... °F.
P411a
Stocker à une température ne dépassant pas... °C.
P411b
Stocker à une température ne dépassant pas... °F.
P412
Ne pas exposer à une température supérieure à 50 °C/122 °F.
P413
Stocker les quantités en vrac de plus de ...kg/ ...lb à une température ne dépassant pas ...°C/... °F.
P413a
Stocker les quantités en vrac de plus de ...kg à une température ne dépassant pas... °C.
P413b
Stocker les quantités en vrac de plus de ...lb à une température ne dépassant pas ...°F.
P420
Stocker à l'écart des autres matières.
P420a
Stocker à l'écart des aliments.
P420b
Stocker à l'écart des matières inflammables.
P420c
Stocker à l'écart des agents d'oxydation.
P420d
Stocker à l'écart des agents de réduction.
P420e
Stocker à l'écart de l'eau.
P420f
Stocker à l'écart des métaux.
P420g
Stocker à l'écart des acides.
P420h
Stocker à l'écart des alcalis (lessives).
P422
Stocker le contenu sous ...
P422a
Stocker le contenu sous gaz inerte.
P422b
Stocker le contenu sous gaz protecteur.
P422c
Stocker le contenu sous solvant.
P422d
Conserver dans l'eau.
P422e
Conserver dans le pétrole.
P422f
Conserver dans l'azote.
P402+P404
Stocker dans un endroit sec. Stocker dans un récipient fermé.
P403+P233
Stocker dans un endroit bien ventilé. Maintenir le récipient fermé de manière étanche.
P403+P235
Stocker dans un endroit bien ventilé. Tenir au frais.
P410+P403
Protéger du rayonnement solaire. Stocker dans un endroit bien ventilé.
P410+P412
Protéger du rayonnement solaire. Ne pas exposer à une température supérieure à 50 °C/122 °F.
P411+P235
Stocker à une température ne dépassant pas ...°C/ ...°F. Tenir au frais.
P411a+P235
Stocker à une température ne dépassant pas... °C. Tenir au frais.
P411b+P235
Stocker à une température ne dépassant pas ...°F. Tenir au frais.
P501
Éliminer le contenu/récipient dans ...
P501a
Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.
P502
Se reporter au fabricant/fournisseur pour des informations concernant la récupération/le recyclage

Sistema mondiale armonizzato di classificazione ed etichettatura delle sostanze chimiche (GHS)

Pericolo		GHS01	H200, H201, H202, H203 H240 H241
Attenzione		GHS01	H204
Pericolo		GHS02	H220, H222, H224 H225 , H228, H229 H241, H242 H250, H251, H260, H261
Attenzione		GHS02	H223 , H226, H228, H229 H242, H252, H261
Attenzione	Nessun pittogramma		H221, H229
Pericolo		GHS03	H270, H271, H272
Attenzione		GHS03	H272
Attention		GHS04	H280, H281
Pericolo		GHS06	H300, H310, H330 H301, H311, H331
Attenzione		GHS07	H302, H312, H332
Danger		GHS08	H340, H350, H360, H370 H372, H334, H304
Attenzione		GHS08	H341, H351, H361, H371 H373
Pericolo		GHS05	H314, H318
Attenzione		GHS05	H290
Attention		GHS07	H315, H319, H317, H335, H336, H420
Attenzione		GHS09	H400, H410
Nessuna Avvertenza		GHS09	H411

The GHS regulation resp. CLP (regulation on Classication, Labeling and Packaging of Substances and Mixtures) regulation (EG) No 1272/2008 has become effective on 20th January 2009.

This regulation will amend and repeal Directives 67/548/EEC and 1999/45/EC over a period of a few years, and amend Regulation (EC) No 1907/2006. It's the aim of this regulation to ensure a high level of protection of human health and the environment. In addition it is essential to harmonize the provisions and criteria for the classification and labeling of substances and mixtures.

With this information we would like to give our customers an insight into the new systematic and simultaneously provide an opportunity to become acquainted with the new pictograms as well as with the H (hazard warnings)- and P (safety information) codes.

H - Codici

Indicazioni di pericolo pericolo fisico

H200
Esplosivo instabile.
H201
Esplosivo; pericolo di esplosione di massa.
H202
Esplosivo; grave pericolo di proiezione.
H203
Esplosivo; pericolo di incendio, di spostamento d'aria o di proiezione.
H204
Pericolo di incendio o di proiezione.
H205
Pericolo di esplosione di massa in caso d'incendio.
H220
Gas altamente infiammabile.
H221
Gas infiammabile.
H222
Aerosol altamente infiammabile.
H223
Aerosol infiammabile.
H224
Liquido e vapori altamente infiammabili.
H225
Liquido e vapori facilmente infiammabili.
H226
Liquido e vapori infiammabili.
H227
Liquido combustibile.
H228
Solido infiammabile.
H229
Recipiente sotto pressione: può esplodere se riscaldato.
H230
Può reagire in modo esplosivo anche in assenza di aria.
H231
Può reagire in modo esplosivo anche in assenza di aria a pressione e/o temperatura elevate.
H240
Rischio di esplosione per riscaldamento.
H241
Rischio d'incendio o di esplosione per riscaldamento.
H242
Rischio d'incendio per riscaldamento.
H250
Spontaneamente infiammabile all'aria.
H251
Autoriscaldante; può infiammarsi.
H252
Autoriscaldante in grandi quantità; può infiammarsi.
H260
A contatto con l'acqua libera gas infiammabili che possono infiammarsi spontaneamente.
H261
A contatto con l'acqua libera gas infiammabili.
H270
Può provocare o aggravare un incendio; comburente.
H271
Può provocare un incendio o un'esplosione; molto comburente.
H272
Può aggravare un incendio; comburente.
H280
Contiene gas sotto pressione; può esplodere se riscaldato.

H281
Contiene gas refrigerato; può provocare ustioni o lesioni criogeniche.
H290
Può essere corrosivo per i metalli.

Indicazioni di pericolo per la salute

H300
Letale se ingerito.
H301
Tossico se ingerito.
H302
Nocivo se ingerito.
H303
Può essere nocivo per ingestione.
H304
Può essere letale in caso di ingestione e di penetrazione nelle vie respiratorie.
H305
Può essere nocivo per ingestione e se raggiunge le vie respiratorie.
H310
Letale per contatto con la pelle.
H311
Tossico per contatto con la pelle.
H312
Nocivo per contatto con la pelle.
H313
Può essere nocivo a contatto con la pelle.
H314
Provoca gravi ustioni cutanee e gravi lesioni oculari.
H315
Provoca irritazione cutanea.
H316
Causa leggera irritazione cutanea.
H317
Può provocare una reazione allergica cutanea.
H318
Provoca gravi lesioni oculari.
H319
Provoca grave irritazione oculare.
H320
Causa irritazione agli occhi.
H330
Letale se inalato.
H331
Tossico se inalato.
H332
Nocivo se inalato.
H333
Può essere nocivo per inalazione.
H334
Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.
H335
Può irritare le vie respiratorie.
H336
Può provocare sonnolenza o vertigini.
H340
Può provocare alterazioni genetiche.
H341
Sospettato di provocare alterazioni genetiche.
H350
Può provocare il cancro.
H350i
Può provocare il cancro se inalato.
H351
Sospettato di provocare il cancro.
H351i
Sospettato di provocare il cancro per inalazione.
H360
Può nuocere alla fertilità o al feto.
H360D
Può nuocere al feto.
H360Df
Può nuocere al feto. Sospettato di nuocere alla fertilità.
H360F
Può nuocere alla fertilità.
H360FD
Può nuocere alla fertilità. Può nuocere al feto.
H360Fd
Può nuocere alla fertilità. Sospettato di nuocere al feto.
H361
Sospettato di nuocere alla fertilità o al feto.
H361d
Sospettato di nuocere al feto.
H361f
Sospettato di nuocere alla fertilità
H361fd
Sospettato di nuocere alla fertilità Sospettato di nuocere al feto.
H362
Può essere nocivo per i lattanti allattati al seno.
H370
Provoca danni agli organi.
H371
Può provocare danni agli organi.
H372
Provoca danni agli organi in caso di esposizione prolungata o ripetuta.
H373
Può provocare danni agli organi in caso di esposizione prolungata o ripetuta.
H300+H310
Mortale in caso di ingestione o a contatto con la pelle.
H300+H310+H330
Mortale se ingerito, a contatto con la pelle o se inalato.
H300+H330
Mortale se ingerito o inalato.
H301+H311
Tossico se ingerito o a contatto con la pelle.
H301+H311+H331
Tossico se ingerito, a contatto con la pelle o se inalato.
H301+H331
Tossico se ingerito o inalato.
H302+H312
Nocivo se ingerito o a contatto con la pelle.
H302+H312+H332
Nocivo se ingerito, a contatto con la pelle o se inalato.
H302+H332
Nocivo se ingerito o inalato.
H303+H313
Può essere nocivo per ingestione o a contatto con la pelle.
H303+H313+H333
Può essere nocivo per ingestione, a contatto con la pelle o per inalazione.
H303+H333
Può essere nocivo per ingestione o per inalazione.
H310+H330
Mortale a contatto con la pelle o in caso di inalazione.
H311+H331
Tossico a contatto con la pelle o se inalato.
H312+H332
Nocivo a contatto con la pelle o se inalato.
H313+H333
Può essere nocivo a contatto con la pelle o per inalazione.
H315+H320
Provoca irritazione cutanea e agli occhi.

Indicazioni di pericolo per l'ambiente

H400
Molto tossico per gli organismi acquatici.
H401
Tossico per gli organismi acquatici.
H402
Nocivo per gli organismi acquatici.
H410
Molto tossico per gli organismi acquatici con effetti di lunga durata.
H411
Tossico per gli organismi acquatici con effetti di lunga durata.
H412
Nocivo per gli organismi acquatici con effetti di lunga durata.
H413
Può essere nocivo per gli organismi acquatici con effetti di lunga durata.
H420
Nuoce alla salute pubblica e all'ambiente distruggendo l'ozono dello strato superiore dell'atmosfera

EUH - Codici

informazioni supplementari sui pericoli

EUH001
Esplosivo allo stato secco.
EUH006
Esplosivo a contatto o senza contatto con l'aria.
EUH014
Reagisce violentemente con l'acqua.
EUH018
Durante l'uso può formarsi una miscela vapore-aria esplosiva/infiammabile.
EUH019
Può formare perossidi esplosivi.
EUH029
A contatto con l'acqua libera un gas tossico.
EUH031
A contatto con acidi libera gas tossici.
EUH032
A contatto con acidi libera gas molto tossici.
EUH044
Rischio di esplosione per riscaldamento in ambiente confinato.
EUH059
Pericoloso per lo strato di ozono.
EUH066
L'esposizione ripetuta può provocare secchezza o screpolature della pelle.
EUH070
Tossico per contatto oculare.
EUH071
Corrosivo per le vie respiratorie.

P - Codices

P101
In caso di consultazione di un medico, tenere a disposizione il contenitore o l'etichetta del prodotto.
P102
Tenere fuori dalla portata dei bambini.
P103
Leggere l'etichetta prima dell'uso.
P201
Procurarsi istruzioni specifiche prima dell'uso.
P202
Non manipolare prima di avere letto e compreso tutte le avvertenze.
P210
Tenere lontano da fonti di calore/scintille/fiamme libere/superfici riscaldate. - Non fumare.
P210a
Tenere lontano da fonti di calore - Non fumare.
P210b
Tenere lontano da scintille - Non fumare.**P210c**
Tenere lontano da fiamme libere. - Non fumare.
P210d
Tenere lontano da superfici riscaldate - Non fumare.
P211
Non vaporizzare su una fiamma libera o altra fonte di accensione.
P220
Tenere/conservare lontano da indumenti/materiali combustibili.
P220a
Tenere lontano da indumenti.
P220b
Tenere lontano da materiali combustibili.
P220c
Tenere lontano da riducenti, da composti di metalli pesanti, acidi e alcali.
P220d
Tenere lontano da sostanze ossidanti e acide e da composti di metalli pesanti.
P220e
Tenere lontano da ferro.
P220f
Tenere lontano da acqua.
P220g
Tenere lontano da acidi.
P220h
Tenere lontano da soluzioni alcaline.
P220i
Tenere lontano da metalli.
P220j
Tenere lontano da sostanze ossidanti e acide.
P220k
Tenere lontano da sostanze organiche infiammabili.
P220l
Tenere lontano da acidi, riducenti e materiali infiammabili.
P221
Prendere ogni precauzione per evitare di miscelare con sostanze combustibili.
P222
Evitare il contatto con l'aria.
P223
Evitare qualsiasi contatto con l'acqua: pericolo di reazione violenta e di infiammazione spontanea.
P230
Mantenere umido con....
P230a
Mantenere umido.
P231
Manipolare in atmosfera di gas inerte.
P232
Proteggere dall'umidità.
P233
Tenere il recipiente ben chiuso.
P234
Conservare soltanto nel contenitore originale.
P235
Conservare in luogo fresco.
P240
Mettere a terra/massa il contenitore e il dispositivo ricevente.
P241
Utilizzare impianti elettrici/di ventilazione/d'illuminazione/a prova di esplosione.
P242
Utilizzare solo utensili antiscintillamento.
P243
Prendere precauzioni contro le scariche elettrostatiche.
P244
Mantenere le valvole di riduzione libere da grasso e olio.

P250
Evitare le abrasioni/gli urti/gli attriti.
P251
Recipiente sotto pressione: non perforare né bruciare, neppure dopo l'uso.
P260
Non respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.
P260a
Non respirare la polvere.
P260b
Non respirare i fumi.
P260c
Non respirare i gas.
P260d
Non respirare la nebbia.
P260e
Non respirare i vapori.
P260f
Non respirare gli aerosol.
P260g
Non respirare la nebbia/i vapori/gli aerosol.
P261
Evitare di respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.
P261a
Evitare di respirare la polvere.
P261b
Evitare di respirare i fumi.
P261c
Evitare di respirare i gas.
P261d
Evitare di respirare la nebbia.
P261e
Evitare di respirare i vapori.
P261f
Evitare di respirare gli aerosol.
P261g
Evitare di respirare la nebbia/i vapori/gli aerosol.
P262
Evitare il contatto con gli occhi, la pelle o gli indumenti.
P263
Evitare il contatto durante la gravidanza/l'allattamento.
P264
Lavare accuratamente dopo l'uso.
P270
Non mangiare, né bere, né fumare durante l'uso.
P271
Utilizzare soltanto all'aperto o in luogo ben ventilato.
P272
Gli indumenti da lavoro contaminati non devono essere portati fuori dal luogo di lavoro.
P273
Non disperdere nell'ambiente.
P280
Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.
P280a
Indossare guanti / occhiali di protezione / protezione per il viso.
P280b
Indossare guanti di protezione / occhiali di protezione.
P280c
Indossare guanti di protezione / protezione per il viso.
P280d
Indossare indumenti protettivi / occhiali di protezione.
P280e
Indossare indumenti protettivi / protezione per il viso.
P280f
Indossare indumenti protettivi.
P280g
Indossare guanti di protezione.
P280h
Indossare guanti di protezione / indumenti protettivi.
P280i
Indossare protezione per occhi / protezione per il viso.
P280j
Indossare protezione per il viso.
P281
Utilizzare il dispositivo di protezione individuale richiesto.
P282
Utilizzare guanti termici/schermo facciale/Proteggere gli occhi.
P283
Indossare indumenti completamente ignifughi o in tessuti ritardanti di fiamma.
P284
Utilizzare un apparecchio respiratorio.
P285
In caso di ventilazione insufficiente utilizzare un apparecchio respiratorio.
P301
IN CASO DI INGESTIONE:
P302
IN CASO DI CONTATTO CON LA PELLE:
P303
IN CASO DI CONTATTO CON LA PELLE (o con i capelli):
P304
IN CASO DI INALAZIONE:
P305
IN CASO DI CONTATTO CON GLI OCCHI:
P306
IN CASO DI CONTATTO CON GLI INDUMENTI:
P307
IN CASO di esposizione:**P308**
IN CASO di esposizione o di possibile esposizione:
P309
IN CASO di esposizione o di malessere:
P310
Contattare immediatamente un CENTRO ANTIVELENI o un medico.
P311
Contattare un CENTRO ANTIVELENI o un medico.
P312
In caso di malessere, contattare un CENTRO ANTIVELENI o un medico.
P313
Consultare un medico.
P314
In caso di malessere, consultare un medico.
P315
Consultare immediatamente un medico.
P320
Trattamento specifico urgente (vedere su questa etichetta).
P321
Trattamento specifico (vedere su questa etichetta).
P322
Misure specifiche (vedere su questa etichetta).
P330
Sciacquare la bocca.
P331
NON provocare il vomito.
P332
In caso di irritazione della pelle:
P333
In caso di irritazione o eruzione della pelle:
P334
Immergere in acqua fredda/avvolgere con un bendaggio umido.
P335
Rimuovere le particelle depositate sulla pelle.
P336
Sgelare le parti congelate usando acqua tiepida. Non sfregare la parte interessata.
P337
Se l'irritazione degli occhi persiste:
P338
Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.
P340
Trasportare l'infortunato all'aria aperta e mantenerlo a riposo in posizione che favorisca la respirazione.
P341
Se la respirazione è difficile, trasportare l'infortunato all'aria aperta e mantenerlo a riposo in posizione che favorisca la respirazione.
P342
In caso di sintomi respiratori:
P350
Lavare delicatamente e abbondantemente con acqua e sapone.
P351
Sciacquare accuratamente per parecchi minuti.
P352
Lavare abbondantemente con acqua e sapone.
P353
Sciacquare la pelle/fare una doccia.
P360
Sciacquare immediatamente e abbondantemente gli indumenti contaminati e la pelle prima di togliersi gli indumenti.
P361
Togliersi di dosso immediatamente tutti gli indumenti contaminati.
P362
Togliersi di dosso gli indumenti contaminati e lavarli prima di indossarli nuovamente.
P363
Lavare gli indumenti contaminati prima di indossarli nuovamente.
P364
E lavarli prima di indossarli nuovamente.
P370
In caso di incendio:
P371
In caso di incendio grave e di quantità rilevanti:
P372
Rischio di esplosione in caso di incendio.
P373
NON utilizzare mezzi estinguenti se l'incendio raggiunge materiali esplosivi.
P374
Utilizzare i mezzi estinguenti con le precauzioni abituali a distanza ragionevole.
P375
Rischio di esplosione. Utilizzare i mezzi estinguenti a grande distanza.
P376
Bloccare la perdita se non c'è pericolo.
P377
In caso d'incendio dovuto a perdita di gas, non estinguere a meno che non sia possibile bloccare la perdita senza pericolo.
P378
Estinguere con...
P378a
Estinguere con: CO_2, polvere per estintore o acqua nebulizzata.
P378b
Estinguere con: Polvere speciale per incendi di metalli.
P378c
Estinguere con: CO_2, sabbia, polvere per estintore.
P378d
Estinguere con: Acqua.
P378e
Estinguere con: Acqua nebulizzata.
P378f
Estinguere con: Getto d'acqua.
P378g
Estinguere con: Schiuma.
P378h
Estinguere con: Schiuma resistente all'alcool.
P378i
Estinguere con: Polvere per estintore.
P378j
Estinguere con: Polvere BC.
P378k
Estinguere con: Polvere ABC.
P378l
Estinguere con: Anidride carbonica.
P378m
Estinguere con: Polvere calcarea.
P378n
Estinguere con: Cemento.
P378o
Estinguere con: Sabbia.
P378p
Estinguere con: Sabbia asciutta.
P380
Evacuare la zona.
P381
Eliminare ogni fonte di accensione se non c'è pericolo.
P390
Assorbire la fuoriuscita per evitare danni materiali.
P391
Raccogliere il materiale fuoriuscito.
P301+P310
IN CASO DI INGESTIONE: contattare immediatamente un CENTRO ANTIVELENI o un medico.
P301+P312
IN CASO DI INGESTIONE accompagnata da malessere: contattare un CENTRO ANTIVELENI o un medico.
P301+P330+P331
IN CASO DI INGESTIONE: sciacquare la bocca. NON provocare il vomito.
P302+P334
IN CASO DI CONTATTO CON LA PELLE: immergere in acqua fredda/avvolgere con un bendaggio umido.
P302+P350
IN CASO DI CONTATTO CON LA PELLE: lavare delicatamente e abbondantemente con acqua e sapone.
P302+P352
IN CASO DI CONTATTO CON LA PELLE: lavare abbondantemente con acqua e sapone.
P303+P361+P353
IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle/fare una doccia.
P304+P312
IN CASO DI INALAZIONE accompagnata da malessere: Contattare un CENTRO ANTIVELENI o un medico.
P304+P340
IN CASO DI INALAZIONE: trasportare l'infortunato all'aria aperta e mantenerlo a riposo in posizione che favorisca la respirazione.
P304+P341
IN CASO DI INALAZIONE: se la respirazione è difficile, trasportare l'infortunato all'aria aperta e mantenerlo a riposo in posizione che favorisca la respirazione.
P305+P351+P338
IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.
P306+P360
IN CASO DI CONTATTO CON GLI INDUMENTI: sciacquare immediatamente e abbondantemente gli indumenti contaminati e la pelle prima di togliersi gli indumenti.
P307+P311
IN CASO di esposizione, contattare un CENTRO ANTIVELENI o un medico.

P308+P311
In caso di esposizione o di possibile esposizione: contattare un CENTRO ANTIVELENI/un medico.
P308+P313
IN CASO di esposizione o di possibile esposizione, consultare un medico.
P309+P311
IN CASO di esposizione o di malessere, contattare un CENTRO ANTIVELENI o un medico.
P231+P232
Manipolare in atmosfera di gas inerte. Tenere al riparo dall'umidità.
P332+P313
In caso di irritazione della pelle: consultare un medico.
P333+P313
In caso di irritazione o eruzione della pelle: consultare un medico.
P335+P334
Rimuovere le particelle depositate sulla pelle. Immergere in acqua fredda/avvolgere con un bendaggio umido.
P235+P410
Tenere in luogo fresco. Proteggere dai raggi solari.
P337+P313
Se l'irritazione degli occhi persiste, consultare un medico.
P342+P311
In caso di sintomi respiratori: contattare un CENTRO ANTIVELENI o un medico.
P361+P364
Togliersi di dosso immediatamente gli indumenti contaminati e lavarli prima di indossarli nuovamente.
P362+P364
Togliersi di dosso gli indumenti contaminati e lavarli prima di indossarli nuovamente.
P370+P376
In caso di incendio: bloccare la perdita se non c'è pericolo.
P370+P378
In caso di incendio: estinguere con....
P370+P378a
In caso di incendio: Estinguere con: CO_2, polvere per estintore o acqua nebulizzata.
P370+P378b
In caso di incendio: Estinguere con: Polvere speciale per incendi di metalli.
P370+P378c
In caso di incendio: Estinguere con: CO_2, sabbia, polvere per estintore.
P370+P378d
In caso di incendio: Estinguere con: Acqua.
P370+P378e
In caso di incendio: Estinguere con: Acqua nebulizzata.
P370+P378f
In caso di incendio: Estinguere con: Getto d'acqua.
P370+P378g
In caso di incendio: Estinguere con: Schiuma.
P370+P378h
In caso di incendio: Estinguere con: Schiuma resistente all'alcool.
P370+P378i
In caso di incendio: Estinguere con: Polvere per estintore.
P370+P378j
In caso di incendio: Estinguere con: Polvere BC.
P370+P378k
In caso di incendio:Estinguere con: Polvere ABC.
P370+P378l
In caso di incendio: Estinguere con: Anidride carbonica.
P370+P378m
In caso di incendio: Estinguere con: Polvere calcarea.
P370+P378n
In caso di incendio: Estinguere con: Cemento.
P370+P378o
In caso di incendio: Estinguere con: Sabbia.
P370+P378p
In caso di incendio: Estinguere con: Sabbia asciutta.
P370+P380
Evacuare la zona in caso di incendio.
P370+P380+P375
In caso di incendio: evacuare la zona. Rischio di esplosione. Utilizzare i mezzi estinguenti a grande distanza.
P371+P380+P375
In caso di incendio grave e di grandi quantità: evacuare la zona. Rischio di esplosione. Utilizzare i mezzi estinguenti a grande distanza.
P401
Conservare...
P401a
Conservare secondo i regolamenti locali/regionali/nazionali/internazionali.
P402
Conservare in luogo asciutto.
P403
Conservare in luogo ben ventilato.
P404
Conservare in un recipiente chiuso.
P405
Conservare sotto chiave.**P406**
Conservare in recipiente resistente alla corrosione provvisto di rivestimento interno resistente.
P407
Mantenere uno spazio libero tra gli scaffali/i pallet.
P410
Proteggere dai raggi solari.
P411
Conservare a temperature non superiori a ... °C/ ...°F.
P411a
Conservare a temperature non superiori a... °C.
P411b
Conservare a temperature non superiori a... °F.
P412
Non esporre a temperature superiori a 50 °C/122 °F.
P413
Conservare le rinfuse di peso superiore a ...kg/ ...lb a temperature non superiori a ... °C/ ...°F.
P413a
Conservare le rinfuse di peso superiore a ...kg a temperature non superiori a... °C.
P413b
Conservare le rinfuse di peso superiore a ...lb a temperature non superiori a ...°F.
P420
Conservare lontano da altri materiali.
P420a
Conservare lontano da alimenti.
P420b
Conservare lontano da sostanze infiammabili.
P420c
Conservare lontano dal ossidanti.
P420d
Conservare lontano da riducenti.
P420e
Conservare lontano dal acqua.
P420f
Conservare lontano da metalli.
P420g
Conservare lontano dal acidi.
P420h
Conservare lontano da sostanze alcaline.
P422
Conservare sotto...
P422a
Conservare sotto gas inerte.
P422b
Conservare sotto gas protettivo.
P422c
Conservare sotto solvente.
P422d
Conservare in acqua.
P422e
Conservare sotto petrolio.
P422f
Conservare sotto azoto.
P402+P404
Conservare in luogo asciutto e in recipiente chiuso.
P403+P233
Tenere il recipiente ben chiuso e in luogo ben ventilato.
P403+P235
Conservare in luogo fresco e ben ventilato.
P410+P403
Proteggere dai raggi solari. Conservare in luogo ben ventilato.
P410+P412
Proteggere dai raggi solari. Non esporre a temperature superiori a 50 °C/122 °F.
P411+P235
Conservare in luogo fresco a temperature non superiori a ...°C/ ...°F.
P411a+P235
Conservare in lugo fresco a temperature non superiori a ...°C.
P411b+P235
Conservare in lugo fresco a temperature non superiori a... °F.
P501
Smaltire il prodotto/recipiente in ...
P501a
Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.
P502
Chiedere informazioni al produttore o fornitore per il recupero/riciclaggio

Sistema Globalmente Armonizado de clasificación y etiquetado de productos químicos (SGA)

Peligro		GHS01	H200, H201, H202, H203 H240 H241
Atención		GHS01	H204
Peligro		GHS02	H220, H222, H224 H225 , H228, H229 H241, H242 H250, H251, H260, H261
Atención		GHS02	H223 , H226, H228, H229 H242, H252, H261
Atención	Sin pictograma		H221, H229
Peligro		GHS03	H270, H271, H272
Atención		GHS03	H272
Atención		GHS04	H280, H281
Peligro		GHS06	H300, H310, H330 H301, H311, H331
Atención		GHS07	H302, H312, H332
Peligro		GHS08	H340, H350, H360, H370 H372, H334, H304
Atención		GHS08	H341, H351, H361, H371 H373
Peligro		GHS05	H314, H318
Atención		GHS05	H290
Atención		GHS07	H315, H319, H317, H335, H336, H420
Atención		GHS09	H400, H410
Sin palabra de advertencia		GHS09	H411

The GHS regulation resp. CLP (regulation on Classication, Labeling and Packaging of Substances and Mixtures) regulation (EG) No 1272/2008 has become effective on 20th January 2009.

This regulation will amend and repeal Directives 67/548/EEC and 1999/45/EC over a period of a few years, and amend Regulation (EC) No 1907/2006. It's the aim of this regulation to ensure a high level of protection of human health and the environment. In addition it is essential to harmonize the provisions and criteria for the classification and labeling of substances and mixtures.

With this information we would like to give our customers an insight into the new systematic and simultaneously provide an opportunity to become acquainted with the new pictograms as well as with the H (hazard warnings)- and P (safety information) codes.

H - Códigos

Indicaciónes de peligro asignada a peligro físico

H200
Explosivo inestable.
H201
Explosivo; peligro de explosión en masa.
H202
Explosivo; grave peligro de proyección.
H203
Explosivo; peligro de incendio, de onda expansiva o de proyección.
H204
Peligro de incendio o de proyección.
H205
Peligro de explosión en masa en caso de incendio.
H220
Gas extremadamente inflamable.
H221
Gas inflamable.
H222
Aerosol extremadamente inflamable.
H223
Aerosol inflamable.
H224
Líquido y vapores extremadamente inflamables.
H225
Líquido y vapores muy inflamables.
H226
Líquidos y vapores inflamables.
H227
Líquido combustible.
H228
Sólido inflamable.
H229
Envase a presión. Puede reventar si se calienta.
H230
Puede explotar incluso en ausencia de aire.
H231
Puede explotar incluso en ausencia de aire, a presión y/o temperatura elevadas.
H240
Peligro de explosión en caso de calentamiento.
H241
Peligro de incendio o explosión en caso de calentamiento.
H242
Peligro de incendio en caso de calentamiento.
H250
Se inflama espontáneamente en contacto con el aire.
H251
Se calienta espontáneamente; puede inflamarse.
H252
Se calienta espontáneamente en grandes cantidades; puede inflamarse.
H260
En contacto con el agua desprende gases inflamables que pueden inflamarse espontáneamente.
H261
En contacto con el agua desprende gases inflamables.
H270
Puede provocar o agravar un incendio; comburente.
H271
Puede provocar un incendio o una explosión; muy comburente.
H272
Puede agravar un incendio; comburente.
H280
Contiene gas a presión; peligro de explosión en caso de calentamiento.**H281**
Contiene un gas refrigerado; puede provocar quemaduras o lesiones criogénicas.
H290
Puede ser corrosivo para los metales.

Indicaciónes de peligro para la salud humana

H300
Mortal en caso de ingestión.
H301
Tóxico en caso de ingestión.
H302
Nocivo en caso de ingestión.
H303
Puede ser nocivo en caso de ingestión.
H304
Puede ser mortal en caso de ingestión y penetración en las vías respiratorias.
H305
Puede ser nocivo en caso de ingestión y de penetración en las vías respiratorias.
H310
Mortal en contacto con la piel.
H311
Tóxico en contacto con la piel.
H312
Nocivo en contacto con la piel.
H313
Puede ser nocivo en contacto con la piel.
H314
Provoca quemaduras graves en la piel y lesiones oculares graves.
H315
Provoca irritación cutánea.
H316
Provoca una leve irritación cutánea.
H317
Puede provocar una reacción alérgica en la piel.
H318
Provoca lesiones oculares graves.
H319
Provoca irritación ocular grave.
H320
Provoca irritación ocular.
H330
Mortal en caso de inhalación.
H331
Tóxico en caso de inhalación.
H332
Nocivo en caso de inhalación.
H333
Puede ser nocivo si se inhala.
H334
Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.
H335
Puede irritar las vías respiratorias.
H336
Puede provocar somnolencia o vértigo.
H340
Puede provocar defectos genéticos.
H341
Se sospecha que provoca defectos genéticos.
H350
Puede provocar cáncer.
H350i
Puede provocar cáncer por inhalación.
H351
Se sospecha que provoca cáncer.
H351i
Podría provocar cáncer probablemente a causa de la inhalación.
H360
Puede perjudicar la fertilidad o dañar al feto.
H360D
Puede dañar al feto.
H360Df
Puede dañar al feto. Se sospecha que perjudica a la fertilidad.
H360F
Puede dañar al feto.
H360FD
Puede perjudicar a la fertilidad. Puede dañar al feto.
H360Fd
Puede perjudicar a la fertilidad. Se sospecha que daña al feto.
H361
Se sospecha que perjudica la fertilidad o daña al feto.
H361d
Se sospecha que daña al feto.
H361f
Se sospecha que perjudica a la fertilidad.

H361fd
Se sospecha que perjudica a la fertilidad. Se sospecha que daña al feto.
H362
Puede perjudicar a los niños alimentados con leche materna.
H370
Provoca daños en los órganos.
H371
Puede provocar daños en los órganos.
H372
Provoca daños en los órganos tras exposiciones prolongadas o repetidas.
H373
Puede provocar daños en los órganos tras exposiciones prolongadas o repetidas.
H300+H310
Mortal en caso de ingestión o en contacto con la piel.
H300+H310+H330
Mortal en caso de ingestión, contacto con la piel o inhalación.
H300+H330
Mortal en caso de ingestión o inhalación.
H301+H311
Tóxico en caso de ingestión o en contacto con la piel.
H301+H311+H331
Tóxico en caso de ingestión, contacto con la piel o inhalación.
H301+H331
Tóxico en caso de ingestión o inhalación.
H302+H312
Nocivo en caso de ingestión o en contacto con la piel.
H302+H312+H332
Nocivo en caso de ingestión, contacto con la piel o inhalación.
H302+H332
Nocivo en caso de ingestión o inhalación.
H303+H313
Puede ser nocivo en caso de ingestión o en contacto con la piel.
H303+H313+H333
Puede ser nocivo en caso de ingestión, en contacto con la piel o si se inhala.
H303+H333
Puede ser nocivo en caso de ingestión o si se inhala.
H310+H330
Mortal en contacto con la piel o si se inhala.
H311+H331
Tóxico en contacto con la piel o si se inhala.
H312+H332
Nocivo en contacto con la piel o si se inhala.
H313+H333
Puede ser nocivo en contacto con la piel o si se inhala.
H315+H320
Provoca irritación cutánea y ocular.

Indicaciónes de peligro para el medio ambiente

H400
Muy tóxico para los organismos acuáticos.
H401
Tóxico para los organismos acuáticos.
H402
Nocivo para los organismos acuáticos.
H410
Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos.
H411
Tóxico para los organismos acuáticos, con efectos nocivos duraderos.
H412
Nocivo para los organismos acuáticos, con efectos nocivos duraderos.
H413
Puede ser nocivo para los organismos acuáticos, con efectos nocivos duraderos.
H420
Causa daños a la salud pública y el medio ambiente al destruir el ozono en la atmósfera superior

EUH - Códigos

Información suplementaria sobre los peligros

EUH001
Explosivo en estado seco.
EUH006
Explosivo en contacto o sin contacto con el aire.
EUH014
Reacciona violentamente con el agua.
EUH018
Al usarlo pueden formarse mezclas aire-vapor explosivas o inflamables.
EUH019
Puede formar peróxidos explosivos.
EUH029
En contacto con agua libera gases tóxicos.
EUH031
En contacto con ácidos libera gases tóxicos.
EUH032
En contacto con ácidos libera gases muy tóxicos.**EUH044**
Riesgo de explosión al calentarlo en ambiente confinado.
EUH059
Peligroso para la capa de ozono.
EUH066
La exposición repetida puede provocar sequedad o formación de grietas en la piel.
EUH070
Tóxico en contacto con los ojos.
EUH071
Corrosivo para las vías respiratorias.

P - Códigos

P101
Si se necesita consejo médico, tener a mano el envase o la etiqueta.
P102
Mantener fuera del alcance de los niños.
P103
Leer la etiqueta antes del uso.
P201
Pedir instrucciones especiales antes del uso.
P202
No manipular la sustancia antes de haber leído y comprendido todas las instrucciones de seguridad.**210**
Mantener alejado de fuentes de calor, chispas, llama abierta o superficies calientes. - No fumar.
P210a
Mantener alejado de fuentes de calor. - No fumar.
P210b
Mantener alejado de chispas. - No fumar.
P210c
Mantener alejado de llama abierta. - No fumar.
P210d
Mantener alejado de superficies calientes. - No fumar.
P211
No pulverizar sobre una llama abierta u otra fuente de ignición.
P220
Mantener o almacenar alejado de la ropa/materiales combustibles.
P220a
Mantener o almacenar alejado de la ropa.
P220b
Mantener o almacenar alejado de materiales combustibles.
P220c
Mantener alejado de agentes reductores, combinaciones de metales pesados, ácidos y álcalis.
P220d
Mantener alejado de los productos oxidantes, ácidos y combinaciones de metales pesados.
P220e
Mantener alejado del hierro.
P220f
Mantener alejado del agua.
P220g
Mantener alejado de los ácidos.
P220h
Mantener alejado de las sosas.
P220i
Mantener alejado de los metales.
P220j
Mantener alejado de los productos oxidantes y ácidos.
P220k
Mantener alejado de las sustancias orgánicas combustibles.
P220l
Mantener alejado de los ácidos, agentes reductores y materiales combustibles.
P221
Tomar todas las precauciones necesarias para no mezclar con materias combustibles.
P222
No dejar que entre en contacto con el aire.
P223
Mantener alejado de cualquier posible contacto con el agua, pues reacciona violentamente y puede provocar una llamarada.
P230
Mantener humedecido con...
P230a
Mantener humedecido.
P231
Manipular en gas inerte.
P232
Proteger de la humedad.
P233
Mantener el recipiente herméticamente cerrado.
P234
Conservar únicamente en el recipiente original.
P235
Mantener en lugar fresco.
P240
Conectar a tierra/enlace equipotencial del recipiente y del equipo de recepción.
P241
Utilizar un material eléctrico, de ventilación o de iluminación/ antideflagrante.
P242
Utilizar únicamente herramientas que no produzcan chispas.
P243
Tomar medidas de precaución contra descargas electrostáticas.
P244
Mantener las válvulas de reducción limpias de grasa y aceite.
P250
Evitar la abrasión/el choque/la fricción.
P251
Recipiente a presión: no perforar ni quemar, aun después del uso.
P260
No respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.
P260a
No respirar el polvo.
P260b
No respirar el el humo.
P260c
No respirar el el gas.
P260d
No respirar el la niebla.
P260e
No respirar el los vapores.
P260f
No respirar el el aerosol.
P260g
No respirar el la niebla/los vapores/el aerosol.
P261
Evitar respirar el polvo/el humo/el gas/la niebla/los vapores/ el aerosol.
P261a
Evitar respirar el polvo.
P261b
Evitar respirar el humo.
P261c
Evitar respirar el gas.
P261d
Evitar respirar la niebla.
P261e
Evitar respirar los vapores.
P261f
Evitar respirar el aerosol.
P261g
Evitar respirar la niebla/los vapores/el aerosol.
P262
Evitar el contacto con los ojos, la piel o la ropa.
P263
Evitar el contacto durante el embarazo/la lactancia.
P264
Lavarse concienzudamente tras la manipulación.
P270
No comer, beber ni fumar durante su utilización.
P271
Utilizar únicamente en exteriores o en un lugar bien ventilado.
P272
Las prendas de trabajo contaminadas no podrán sacarse del lugar de trabajo.
P273
Evitar su liberación al medio ambiente.
P280
Llevar guantes/prendas/gafas/máscara de protección.
P280a
Llevar guantes de protección / gafas de protección / máscara de protección.
P280b
Llevar guantes de protección / gafas de protección.
P280c
Llevar guantes de protección / máscara de protección.
P280d
Llevar prendas de protección / gafas de protección.
P280e
Llevar prendas de protección / máscara de protección.
P280f
Llevar prendas de protección.

P280g
Llevar guantes de protección.
P280h
Llevar guantes de protección / prendas de protección.**P280i**
Llevar gafas de protección / máscara de protección.
P280j
Llevar máscara de protección.
P282
Llevar guantes que aíslen del frío/gafas/máscara.
P283
Llevar prendas ignífugas/resistentes al fuego/resistentes a las llamas.
P284
Llevar equipo de protección respiratoria.
P301
EN CASO DE INGESTIÓN:
P302
EN CASO DE CONTACTO CON LA PIEL:
P303
EN CASO DE CONTACTO CON LA PIEL (o el pelo):
P304
EN CASO DE INHALACIÓN:
P305
EN CASO DE CONTACTO CON LOS OJOS:
P306
EN CASO DE CONTACTO CON LA ROPA:
P308
EN CASO DE exposición manifiesta o presunta:
P310
Llamar inmediatamente a un CENTRO DE INFORMACION TOXICOLOGICA o a un médico.
P311
Llamar a un CENTRO DE INFORMACION TOXICOLOGICA o a un médico.
P312
Llamar a un CENTRO DE INFORMACION TOXICOLOGICA o a un médico en caso de malestar.
P313
Consultar a un médico.
P314
Consultar a un médico en caso de malestar.
P315
Consultar a un médico inmediatamente.
P320
Se necesita urgentemente un tratamiento específico (ver en esta etiqueta).
P321
Se necesita un tratamiento específico (ver en esta etiqueta).
P330
Enjuagarse la boca.
P331
NO provocar el vómito.
P332
En caso de irritación cutánea:
P333
En caso de irritación o erupción cutánea:
P334
Sumergir en agua fresca/aplicar compresas húmedas.
P335
Sacudir las partículas que se hayan depositado en la piel.
P336
Descongelar las partes heladas con agua tibia. No frotar la zona afectada.
P337
Si persiste la irritación ocular:
P338
Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.
P340
Transportar a la víctima al exterior y mantenerla en reposo en una posición confortable para respirar.
P342
En caso de síntomas respiratorios:
P351
Aclarar cuidadosamente con agua durante varios minutos.
P352
Lavar con agua y jabón abundantes.
P353
Aclararse la piel con agua/ducharse.
P360
Aclarar inmediatamente con agua abundante las prendas y la piel contaminadas antes de quitarse la ropa.
P361
Quitarse inmediatamente las prendas contaminadas.
P362
Quitarse las prendas contaminadas y lavarlas antes de volver a usarlas.
P363
Lavar las prendas contaminadas antes de volver a usarlas.
P364
Y lavarla antes de volverla a usar.
P370
En caso de incendio:
P371
En caso de incendio importante y en grandes cantidades:
P372
Riesgo de explosión en caso de incendio.
P373
NO luchar contra el incendio cuando el fuego llega a los explosivos.
P374
Luchar contra el incendio desde una distancia razonable, tomando las precauciones habituales.
P375
Luchar contra el incendio a distancia, dado el riesgo de explosión.
P376
Detener la fuga, si no hay peligro en hacerlo.
P377
Fuga de gas en llamas: No apagar, salvo si la fuga puede detenerse sin peligro.
P378
Utilizar ... para apagarlo.
P378a
Utilizar para apagarlo: CO_2, polvo extintor o chorro de agua rociada.
P378b
Utilizar para apagarlo: Polvo especial para incendios de metales.
P378c
Utilizar para apagarlo: CO_2, arena, polvo extintor.
P378d
Utilizar para apagarlo: Agua.
P378e
Utilizar para apagarlo: Agua nebulizada.
P378f
Utilizar para apagarlo: Chorro de agua rociada.
P378g
Utilizar para apagarlo: Espuma.
P378h
Utilizar para apagarlo: Espuma resistente al alcohol.
P378i
Utilizar para apagarlo: Polvo extintor.
P378j
Utilizar para apagarlo: Polvo BC.
P378k
Utilizar para apagarlo: Polvo ABC.
P378l
Utilizar para apagarlo: Dióxido de carbono CO_2.
P378m
Utilizar para apagarlo: Polvo de carbonato de calcio.
P378n
Utilizar para apagarlo: Cemento.**P378o**
Utilizar para apagarlo: Arena.
P378p
Utilizar para apagarlo: Arena seca.
P380
Evacuar la zona.
P381
Eliminar todas las fuentes de ignición si no hay peligro en hacerlo.
P390
Absorber el vertido para que no dañe otros materiales.
P391
Recoger el vertido.
P301+P310
EN CASO DE INGESTIÓN: Llamar inmediatamente a un CENTRO DE INFORMACIÓN TOXICOLÓGICA o a un médico.
P301+P312
EN CASO DE INGESTIÓN: Llamar a un CENTRO DE INFORMACIÓN TOXICOLÓGICA o a un médico si se encuentra mal.
P301+P330+P331
EN CASO DE INGESTIÓN: Enjuagarse la boca. NO provocar el vómito.
P302+P334
EN CASO DE CONTACTO CON LA PIEL: Sumergir en agua fresca/aplicar compresas húmedas.
P302+P352
EN CASO DE CONTACTO CON LA PIEL: Lavar con agua y jabón abundantes.
P303+P361+P353
EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitarse inmediatamente las prendas contaminadas. Aclararse la piel con agua o ducharse.
P304+P312
EN CASO DE INHALACIÓN: Llame a un CENTRO ANTIVENENO o a un médico si se encuentra mal.
P304+P340
EN CASO DE INHALACIÓN: Transportar a la víctima al exterior y mantenerla en reposo en una posición confortable para respirar.
P305+P351+P338
EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.
P306+P360
EN CASO DE CONTACTO CON LA ROPA: Aclarar inmediatamente con agua abundante las prendas y la piel contaminadas antes de quitarse la ropa.
P308+P311
EN CASO DE exposición demostrada o supuesta: Llamar a un CENTRO DE TOXICOLOGÍA/médico/…
P308+P313
EN CASO DE exposición manifiesta o presunta: Consultar a un médico.
P231+P232
Manipular en gas inerte. Proteger de la humedad.
P332+P313
En caso de irritación cutánea: Consultar a un médico.
P333+P313
En caso de irritación o erupción cutánea: Consultar a un médico.
P335+P334
Sacudir las partículas que se hayan depositado en la piel. Sumergir en agua fresca/aplicar compresas húmedas.
P235+P410
Conservar en un lugar fresco. Proteger de la luz del sol.
P337+P313
Si persiste la irritación ocular: Consultar a un médico.
P342+P311
En caso de síntomas respiratorios: Llamar a un CENTRO DE INFORMACIÓN TOXICOLÓGICA o a un médico.
P361+P364
Quitar inmediatamente toda la ropa contaminada y lavarla antes de volverla a usar.
P362+P364
Quitar la ropa contaminada y lavarla antes de volverla a usar.
P370+P376
En caso de incendio: Detener la fuga, si no hay peligro en hacerlo.
P370+P378
En caso de incendio: Utilizar ... para apagarlo.
P370+P378a
En caso de incendio: Utilizar para apagarlo: CO_2, polvo extintor o chorro de agua rociada.
P370+P378b
En caso de incendio: Utilizar para apagarlo: Polvo especial para incendios de metales.
P370+P378c
En caso de incendio: Utilizar para apagarlo: CO_2, arena, polvo extintor.
P370+P378d
En caso de incendio: Utilizar para apagarlo: Agua.
P370+P378e
En caso de incendio: Utilizar para apagarlo: Agua nebulizada.
P370+P378f
En caso de incendio: Utilizar para apagarlo: Chorro de agua rociada.
P370+P378g
En caso de incendio: Utilizar para apagarlo: Espuma.
P370+P378h
En caso de incendio: Utilizar para apagarlo: Espuma resistente al alcohol.
P370+P378i
En caso de incendio: Utilizar para apagarlo: Polvo extintor.
P370+P378j
En caso de incendio: Utilizar para apagarlo: Polvo BC.
P370+P378k
En caso de incendio: Utilizar para apagarlo: Polvo ABC.
P370+P378l
En caso de incendio: Utilizar para apagarlo: Dióxido de carbono CO_2.
P370+P378m
En caso de incendio: Utilizar para apagarlo: Polvo de carbonato de calcio.
P370+P378n
En caso de incendio: Utilizar para apagarlo: Cemento.
P370+P378o
En caso de incendio: Utilizar para apagarlo: Arena.
P370+P378p
En caso de incendio: Utilizar para apagarlo: Arena seca.
P370+P380
En caso de incendio: Evacuar la zona.
P370+P380+P375
En caso de incendio: Evacuar la zona. Luchar contra el incendio a distancia, dado el riesgo de explosión.
P371+P380+P375
En caso de incendio importante y en grandes cantidades: Evacuar la zona. Luchar contra el incendio a distancia, dado el riesgo de explosión.
P401
Almacenar ...
P401a
Almacenar conforme a la reglamentación local/regional/nacional/internacional.
P402
Almacenar en un lugar seco.
P403
Almacenar en un lugar bien ventilado.
P404
Almacenar en un recipiente cerrado.

P405
Guardar bajo llave.
P406
Almacenar en un recipiente resistente a la corrosión con revestimiento interior resistente.
P407
Dejar una separación entre los bloques/los palés de carga.
P410
Proteger de la luz del sol.
P411
Almacenar a temperaturas no superiores a ...°C/ ...°F.
P411a
Almacenar a temperaturas no superiores a ...°C.
P411b
Almacenar a temperaturas no superiores a ...°F.
P412
No exponer a temperaturas superiores a 50 °C/122 °F.
P413
Almacenar las cantidades a granel superiores a ...kg/ ...lbs a temperaturas no superiores a ..°C/ …°F.
P413a
Almacenar las cantidades a granel superiores a ...kg a temperaturas no superiores a ...°C.
P413b
Almacenar las cantidades a granel superiores a ...lbs a temperaturas no superiores a ...°F.
P420
Almacenar alejado de otros materiales.**P420a**
Almacenar alejado de alimentos.
P420b
Almacenar alejado de materiales inflamables.
P420c
Almacenar alejado de agentes oxidantes.
P420d
Almacenar alejado de agentes reductores.
P420e
Almacenar alejado de agua.
P420f
Almacenar alejado de metales.
P420g
Almacenar alejado de ácidos.
P420h
Almacenar alejado de agentes alcalinos (lejías).
P422
Almacenar el contenido en ...
P422a
Almacenar el contenido en gas inerte.
P422b
Almacenar el contenido en gas protector.
P422c
Almacenar el contenido en disolvente.
P422d
Almacenar inmerso en agua.
P422e
Almacenar inmerso en petróleo.
P422f
Almacenar inmerso en nitrógeno.
P402+P404
Almacenar en un lugar seco.
P403+P233
Almacenar en un lugar bien ventilado. Mantener el recipiente cerrado herméticamente.
P403+P235
Almacenar en un lugar bien ventilado. Mantener en lugar fresco.
P410+P403
Proteger de la luz del sol. Almacenar en un lugar bien ventilado.
P410+P412
Proteger de la luz del sol. No exponer a temperaturas superiores a 50 °C/122 °F.
P411+P235
Almacenar a temperaturas no superiores a ...°C/ ...°F. Mantener en lugar fresco.
P411a+P235
Almacenar a temperaturas no superiores a ...°C. Mantener en lugar fresco.
P411b+P235
Almacenar a temperaturas no superiores a ...°F. Mantener en lugar fresco.
P501
Eliminar el contenido/el recipiente en ...
P501a
Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.
P502
Pedir información al fabricante o proveedor sobre su recuperación o reciclado

Allgemeine Geschäftsbedingungen (AGB)

I. Geltungsbereich und Einbeziehung

1. Es gelten ausschließlich unsere AGB. Hiervon abweichende AGB des Kunden werden nur durch ausdrückliche Vereinbarung in Schriftform oder durch Erklärun-gen mit qualifizierter elektronischer Unterschrift wirksam einbezogen. Nach Ver-tragsabschluss ist die Einbeziehung abweichender AGB formfrei möglich.
2. Unsere AGB gelten nur gegenüber Unternehmen und juristischen Personen des öffentlichen Rechts (einschließlich den nicht rechtsfähigen Anstalten d.ö.R.); sie gelten auch für zukünftige Verträge mit diesen, ohne dass es erneuter Vereinba-rung ihrer Einbeziehung bedarf.

II. Bindung an Angebote, Angaben bei Vertragsabschluß, Abweichungen von Angaben bei Vertragsabschluß

1. Wir sind berechtigt, unsere Angebote bis zur Annahme zu widerrufen, es sei denn wir bezeichnen unser Angebot als bindend.
2. Auf unserer Webseite, in Katalogen oder ähnlichen Unterlagen enthaltene die Leistung oder das Produkt beschreibende Angaben sowie öffentliche Äußerungen von uns oder von Herstellern sind nicht verbindlich, es sei denn die dort genannte Eigenschaft wurde als Beschaffenheit der Ware mit dem Kunden vereinbart oder der Kunde kann sie aufgrund dieser oder anderer öffentlichen Äußerungen erwarten.
3. Abweichungen von vereinbarten Produkt- oder Leistungseigenschaften berühren nicht die Erfüllung von Verträgen, sofern sie dem Kunden zumutbar sind, den vertragsmäßigen Gebrauch nicht oder nur unwesentlich einschränken und das Vorhandensein der Eigenschaft nicht von uns garantiert oder zugesichert wurde oder für uns erkennbar war, dass die vereinbarte Eigenschaft für den Kunden von besonderer Bedeutung ist, insbesondere wenn durch die Abweichung von ihr der Vertragszweck gefährdet würde.

III. Preisangaben, Preise, Zuschläge, Zahlungsbedingungen, Verzug

1. Mit uns vereinbarte Preise sowie unsere Katalogpreise verstehen sich bei Inlandslieferungen netto frei Haus, d.h. einschließlich Anlieferung und Verpackung und sind zahlbar ohne Abzug. Bei Mindermengen, Gefahrgut und Kühlsendungen erheben wir grundsätzlich zum vereinbarten Preis einen Zuschlag.
2. Unsere Preisangaben sind nur verbindlich nach Maßgabe der nachstehenden Ziff. 3.
3. Bei einer vereinbarten Liefer- oder Leistungszeit von mehr als drei Monaten sind wir berechtigt, die Preise entsprechend in der Zeit zwischen Vertragsschluss und Lieferung eingetretener Preissteigerungen auf unseren Beschaffungsmärkten zu erhöhen und verpflichtet, entsprechend in dieser Zeit dort eingetretener Preiser-niedrigungen zu senken. Wir sind – unabhängig von der vereinbarten Lieferzeit – berechtigt und verpflichtet, den Preis unserer Leistungen dem Marktpreis entspre-chend anzupassen, sofern dieser sich zwischen Vertragsschluss und Leistung bzw. Lieferung um mehr als 4,5% geändert hat.
4. Dauert der Verzug des Kunden länger als 30 Kalendertage oder wird Antrag auf Eröffnung des Insolvenzverfahrens über sein Vermögen gestellt, sind wir berech-tigt, sämtliche Forderungen gegen den Kunden sofort fällig zu stellen, sämtliche Lieferungen und Leistungen zurückzuhalten und sämtliche Rechte aus Eigentums- vorbehalten geltend zu machen.
5. Der Kunde kann nur mit unbestrittenen oder rechtskräftig festgestellten Forde-rungen aufrechnen oder ein Zurückbehaltungsrecht geltend machen.

IV. Lieferung, Liefertermin, Lieferverzug

1. Vereinbarte Liefertermine gelten als eingehalten, wenn die Ware zum vereinbar-ten Liefertermin dem Transportunternehmen übergeben wurde. Wir melden dem Kunden auf Wunsch die Versandbereitschaft der Ware.
2. Der Liefertermin wird nach unserem voraussichtlichen Leistungsvermögen vereinbart und versteht sich vorbehaltlich von uns nicht zu vertretender Umstände und Ereignisse, die bei Vertragsschluss nicht gegeben waren oder uns weder bekannt waren noch bekannt sein mussten, unabhängig davon, ob diese Umstän-de oder Ereignisse bei uns oder beim Hersteller eintreten. Derartige Ereignisse verlängern den Liefertermin entsprechend, und zwar auch dann, wenn sie während eines bereits eingetretenen Verzuges auftreten. Verlängert wird auch eine in diesem Falle evtl. vom Kunden gesetzte Frist um die Dauer des unvorhergesehe-nen Ereignisses.
3. Sollten wir mit einer Lieferung mehr als 8 Wochen in Verzug geraten, kann der Kunde nach einer schriftlich gesetzten, angemessenen Frist zur Leistung vom Vertrag zurücktreten. In die Berechnung der Verzugsdauer sind die von uns nicht zu vertretenden Lieferverzögerungen i.S.d. Ziff. IV. 2 nicht mit einzuberechnen.
4. Wir behalten uns das Recht vor, vom Vertrag zurückzutreten, wenn eine von uns nicht zu vertretende Lieferverzögerung i.S.d. Ziff. IV. 2 länger als 8 Wochen andauert.
5. Wir sind zu Teillieferungen in zumutbarem Umfang berechtigt, sollte auf unse-ren Beschaffungsmärkten ein Beschaffungsengpass bestehen.

V. Eigentumsvorbehalt

1. Die Ware bleibt unser Eigentum bis zur Bezahlung sämtlicher, auch künftig entstehender Forderungen gegen den Kunden, gleich aus welchem Rechtsgrund. Hierzu gehören auch bedingte Forderungen.
2. Der Kunde darf Vorbehaltsware im ordnungsgemäßen Geschäftsbetrieb, und zwar gegen Barzahlung oder unter Eigentumsvorbehalt, veräußern; zu anderen Verfügungen, insbesondere zur Sicherheitsübereignung und zur Verpfändung. ist er nicht berechtigt.
3. Der Kunde tritt zur Sicherung unserer Ansprüche - gleich aus welchem Rechts-grund (vergl. Ziff V.1.) - schon jetzt von seinen Forderungen aus Lieferungen, in denen unsere Vorbehaltware enthalten ist, jeweils den Betrag mit allen Neben-rechten an uns ab, der unserem Rechnungspreis einschließlich Umsatzsteuer für die enthaltene Vorbehaltsware entspricht.
4. Der Kunde bleibt auch nach der Abtretung zur Einziehung der Forderungen berechtigt, vorausgesetzt er ist zur Zeit der Forderungseinziehung nicht verpflich-tet, Insolvenzantrag zu stellen und willens und in der Lage, seinen Zahlungsver-pflichtungen uns gegenüber nachzukommen
5. Übersteigt der Wert der Gesamtheit der uns zustehenden Sicherheiten die Höhe der Gesamtheit unserer Forderungen um mehr als 30% werden wir Sicherheiten nach unserer Wahl auf Verlangen des Kunden freigeben. Fällt die Umsatzsteuer gemäß §§ 170 Abs. 2, 171 Abs. 2, 3 InsO bei uns an, erhöht sich diese Grenze auf 40%.
6. Der Kunde hat uns den Zugriff Dritter auf die Vorbehaltsware oder die uns abgetretenen Forderungen sofort schriftlich mitzuteilen und uns in jeder Weise bei der Intervention zu unterstützen. Die Kosten hierzu trägt der Kunde, wenn die Intervention erfolgreich war, jedoch beim Beklagten als Kostenschuldner die Zwangsvollstreckung vergeblich versucht wurde.
7. Erkennt das Sitzland des Kunden den Eigentumsvorbehalt nicht an, so sind wir berechtigt, gestattet es aber dem Verkäufer, sich andere ähnliche Rechte an dem Liefergegenstand vorzubehalten, so ist der Kunde verpflichtet, uns diese Rechte einzuräumen.

VI. Gefahrübergang, Versicherung

1. Die Gefahr geht mit Übergabe an die Transportperson, deren Beauftragten oder andere Personen, die von uns benannt sind, auf den Kunden über, es sei denn die Ware wird mit eigenen Leuten oder eigenen Fahrzeugen zum Kunden gebracht. Soweit sich der Versand ohne unser Verschulden verzögert oder unmöglich wird, geht die Gefahr mit Meldung der Versandbereitschaft auf den Kunden über. Diese Gefahrübergangsbestimmungen gelten auch bei Rücksendungen nach Mängelbe-seitigung, entgeltlicher Serviceleistung oder Ersatzlieferung an den Kunden.
2. Auf Verlangen des Kunden wird die Sendung auf seine Kosten gegen die von ihm bezeichneten Risiken – soweit mit für uns mit zumutbarem Aufwand möglich – versichert.

VII. Wichtige Hinweise zu unseren Produkten!

1. Lagerung: Bei sämtlichen Substanzen geben wir Lagertemperaturen an, die wir für mehrmonatige Lagerung vorschlagen. Da auch solche Substanzen nach unserer Erfahrung einen mehrtägigen Transport in der Regel ohne Qualitätsverlust überstehen, liefern wir sie nur auf besonderen Wunsch und gegen Aufpreis als Kühlsendung aus.
2. Kühlsendung: Besonders empfindliche Präparate werden als Kühlsendung gegen Zuschlag verschickt.
3. Beschränkte Produktverwendung: Von SERVA gelieferte Produkte sind ausschließlich für Forschungs- und sonstige Laboratoriumszwecke bestimmt. Sie dürfen nur in Laboratorien unter Aufsicht hierfür fachlich qualifizierter Personen verwendet werden. Die Weiterveräußerung oder sonstige Weitergabe unserer Produkte an Privatpersonen ist unzulässig. SERVA ist berechtigt, vom Kunden eine schriftliche Bestätigung zu verlangen, dass das betreffende Produkt für nicht erlaubte Anwendungen weder bezogen noch weiterveräußert wird.
4. Gifte: Giftige Stoffe werden nur aufgrund schriftförmlicher Bestellung an technische Gewerbebetriebe, Wiederverkäufer, öffentliche Forschungs-, Untersuchungs- oder Lehranstalten geliefert. Die Bestellung muss von einer zur Vertretung berechtigten Person handschriftlich unterzeichnet sein und den vollen Namen dieser Person ersichtlich machen. Giftige Stoffe dürfen nur von geschultem Personal unter Beachtung entsprechender Sicherheitsvorkehrungen gehandhabt werden.
5. Sicherheitsdatenblatt: Auf Anforderung übersendet SERVA kostenlos zu jedem Produkt ein Sicherheitsdatenblatt.

VIII. Mängel, Verjährung

1. Der Kunde hat die Lieferung/Leistung unverzüglich – soweit zumutbar - zu untersuchen und erkennbare Mängel unverzüglich schriftlich und – soweit zumut-bar - substantiiert geltend zu machen.
2. Bei Mängeln sind wir entgegen § 439 Abs. 1 BGB nach unserer Wahl zur Mangelbeseitigung oder Ersatzlieferung berechtigt. Das Recht des Kunden, bei Fehlschlagen der Nacherfüllung nach seiner Wahl zu mindern oder zurückzutreten, bleibt unberührt.
3. An Stelle der gemäß § 438 Abs. 1 Nr. 3 BGB geltenden Verjährungsfrist, gilt eine solche von nur einem Jahr. Für Ansprüche nach IX.1 und für solche wegen grober Fahrlässigkeit und Vorsatz gilt diese Verkürzung der Verjährungsfrist nicht.
4. Weitergehende Ansprüche des Kunden wegen Mängeln der Ware sind nach Maßgabe von Ziffer IX ausgeschlossen.

IX. Haftungsbeschränkung

1. Wir haften dem Kunden aus gesetzlichen oder vertraglichen Haftungstatbestän-den unbeschränkt (i) im Falle des Vorsatzes oder der groben Fahrlässigkeit, (ii) bei Verletzung von Leben und Körper, (iii) im Umfang einer von uns übernommenen Garantie, (iv) nach den Vorschriften des Produkthaftungsgesetzes, (iv) nach den gesetzlichen Vorschriften über die Zufalls- und Gefährdungshaftung sowie (v) wenn wir Mängel arglistig verschweigen.
2. Ist kein Fall von Ziff. IX gegeben, gilt folgendes:
a. Im Falle der groben Fahrlässigkeit von Erfüllungsgehilfen, die nicht Organe oder leitende Angestellte sind und keine Pflicht verletzen, die für die Erreichung des Vertragszwecks wesentlich ist („Kardinalspflicht“) haften wir bei Eintritt eines vorhersehbaren typischen Schadens nur bis zu einem Betrag von EUR 100.000,--. Sollte in einem solchen Fall unsere Haftpflichtversicherung eintreten, so haften wir darüber hinaus bis zur Höhe von deren Eintritt, sofern dieser Betrag höher ist.
b. Im Falle der leichten Fahrlässigkeit haften wir nur für die Verletzung von Vertragspflichten, die für die Erreichung des Vertragszwecks wesentlich sind („Kardinalspflichten“). In diesen Fällen ist unsere Haftung jedoch auf vorhersehbare typische Schäden und einen Betrag von EUR 50.000,-- begrenzt.
c. Sollte in einem solchen Fall unsere Haftpflichtversicherung eintreten, so haften wir darüber hinaus bis zur Höhe von deren Eintritt, sofern dieser Betrag höher ist.
3. Die vorstehenden Bestimmungen gelten auch für die persönliche Haftung unserer Mitarbeiter, Vertreter und Organe.

X. Gültigkeitsbestimmung

Wenn einzelne Bestimmungen dieser AGB unwirksam sind oder werden, bleibt die Gültigkeit der übrigen davon unberührt.

XI. Erfüllungsort, Gerichtsstand

Erfüllungsort für unsere vertraglichen Pflichten und Gerichtsstand für sämtliche Streitigkeiten aus dem Vertrag ist Heidelberg. Wir dürfen den Kunden auch an seinem Sitz oder gewöhnlichen Aufenthalt verklagen.

XII. Anwendbares Recht

Es gilt das Recht Deutschlands.

Stand: 21.07.2018

I. Scope and Incorporation

1. Our Terms and Conditions of Sale and Supply (TCS&S) apply exclusively. Deviating Condi-tions of Purchase of the customer shall not be effective unless we expressly accept them in writing or by Email with qualified electronic signature. After formation of contract, deviating Conditions of Purchase may be integrated formlessly.
2. Our TCS&S shall only apply towards customers that are businesses in the sense of section 14 of the German Civil Code, or public law entities (comprising such not having the status of a legal person).
3. Our TCS&S apply on all future relations between the parties, even if not agreed upon expressly.

II. Commitment of Offers, Specifications, Deviations from Specifications

1. We reserve the right to revoke our offers until their acceptance unless we designate them as binding.
2. Product characteristics mentioned on our website, applicable catalogues or similar materials are not binding, unless such characteristics were agreed upon with the customer or the customer relies on them legitimately due to our public utterance.
3. Deviations from product characteristics agreed upon shall be deemed according to the contract if the deviation reasonably has to be accepted by the customer, or does not or not substantially reduce the suitability of the product for the contractually presupposed use, unless we represented the missing characteristic or could realize that it was of major impor-tance for the customer, or its absence endangers the sense of the contract.

III. Prices, Payment

1. All prices are net prices, computed in EURO, exclusive value-added tax (VAT). For do-mestic deliveries we do not charge packaging, transportation, or other incidental costs.
2. Our prices are binding according to below standing para. III. 3.
3. If lead times agreed upon are more than 3 months, we may increase or have to reduce the prices agreed upon in the scope of market prices, if, after formation of the contract our costs increase or decrease, especially due to changes of cost of materials. Irrespective of the lead time agreed upon, we may have to adapt our price to the market price, if such has changed more than 4.5% between the date of contract formation and the delivery date agreed upon.
4. If customer's default with a payment lasts longer than 30 calendar days, or a insolvency petition is filed against customer, we shall be entitled to set due and payable the whole of the price of all goods bought or agreed to be bought by the customer, to retain all deliveries and services, and to demand return of the reserved goods or to collect them from third party areas and take possession of them.
5. The customer shall not be entitled to any right of retention or refusal or offset of his counterclaims against our claims unless the counterclaims the customer exercises retention or refusal for or sets off against our claims are uncontested or res judicata.

IV. Delivery, Delivery Date, Default of Delivery

1. Deadlines for deliveries are deemed to have been met when the goods are handed over to the forwarding agent. We shall notify the customer on its request of the readiness for shipment.
2. Deadlines for deliveries are agreed upon on the basis of our expected ability to perform and are subject to all facts, events and circumstances not attributable to us and not given at the time of the formation of contract. Such circumstances are especially force majeure, and other unforeseeable events. Such circumstances lead to an extension of the delivery date, even if occurring during our default with delivery. In such case, also an additional period fixed by the customer, is extended by the duration of such circumstances.
3. If we are in default of delivery for more than eight weeks, customer may rescind the contract after fruitless expiration of a reasonable additional period fixed by customer. We compute periods of default regardless of circumstances not attributable to us, such as mentioned in para. IV. 2.
4. We reserve the right to rescind the contract in cases of a delay in the delivery not attrib-utable to us, such as mentioned in para. IV. 2., lasting more than eight weeks.
5. Partial deliveries and services shall be acceptable if we have a (i) justified interest in these, including but not limited to cases of bottlenecks in our supply markets and (ii) these are accept-able to the customer.

V. Retention of Title

1. We retain the title in any items delivered by us prior to the receipt of all payments due from customer's business transactions with us, irrespective of their legal grounds. Claims subject to a condition precedent are included.
2. Until payment in full of the purchase price, customer shall not pledge the goods, assign or transfer them as security, or otherwise charge them with the rights of any third party, but may sell them in the ordinary course of business. The customer shall make the passing of title of the resold goods subject to their full payment.
3. The customer assigns already now any of its claims resulting from the resales, contain-ing any items subject to retention of title, including any associated rights. However, the assignment shall cover only the amount of the price we quoted, including VAT.
4. The customer is entitled to collect the purchase prices from resold goods until further notice. If we set due and payable the whole of the price of all goods bought or agreed to be bought by the customer pursuant to para. III. 4., customer is obliged to inform its buyers from the assignment pursuant to para V. 3, to provide us all necessary information, present all relevant documents, resp. make available to us its bookkeeping for information purposes.
5. If the value of the security provided to us exceeds the value of the claims to be safe-guarded by more than 30 per cent, we shall, at the customer's request, bring the excess coverage down to 30 per cent by releasing security of our own choice.
6. We shall be notified without undue delay of any third-party seizure or other event af-fecting our property and customer has to give us reasonable support with our intervention. Customer has to bear the cost of such intervention having been successful but the costs not being recoverable from the defendant and compulsory execution against the defendant being fruitless.
7. If the law in customer's country does not recognize retention of title, but allows us to retain other rights in the delivery, the customer shall assign such rights to us.

VI. Passing of Risk, Insurance

1. The risk of loss and/or damage to goods supplied by us shall pass to the Customer when they are handed over to the transport person, the transport person´s mandatory or oth-er person we authorized, unless we deliver the goods with our own employees or vehicles to the customer. Should shipment be delayed due to circumstances beyond our control, the risk shall pass to the customer upon notification of readiness for shipment. These provisions about passing of risk also apply on returns after correction of faults, repair works at cus-tomer's cost, and replacement delivery.
2. On request of the customer and at its cost, we will insure the goods delivered against the risks notified to us by the customer.

VII. Important Information on our Products

1. Storage: We recommend temperatures that enable the goods to be stored for several months. As experience has shown, such goods can be transported over several days with-out loss of quality. Thus, we will only ship such goods as refrigerated shipments on special request of purchaser and at an additional charge.
2. Refrigerated Shipments: Particularly unstable items will be shipped in insulated packag-ing as refrigerated cargo at an additional charge.
3. Limited Usage: Products supplied by us are for in vitro, laboratory, and research use only. All our products may only be used within the confines of a laboratory and under the supervision of a qualified technical person. The further sale or passing on of our products to private persons is forbidden. At our own discretion, we may request the purchaser to provide us with written confirmation that the goods purchased are not used for applications other than laboratory or research use or are resold only for such purposes.
4. Poisons: Toxic substances are only shipped to industrial users, agents, qualified re-search-, hygiene- and teaching institutions on the basis of written purchase orders. The full name of the individual responsible for purchasing must be clearly visible on the order. Toxic substances may not be passed on to private individuals; toxic substances may only be used by qualified personnel in accordance with all necessary safety regulations.
5. Safety Data Sheet: On customer's request, we will send customer a safety data sheet about each product.

VIII. Warranty

1. Customer has, without undue delay, to examine the goods and notify us in writing of any recognizable defects and shall, as far as possible with reasonable efforts, specify the defects found.
2. In case of warranty, we may, by way of derogation from Sec. 439 of the German Civil Code, at our discretion, repair or replace the delivered goods.
3. The limitation period in cases of deliveries where Section 438 para 2 No. 3 of the German Civil Code (about limitation period) is applicable, is limited to only one year. This time-barring reduction does not apply for claims based on an intentional or grossly negligent breach of duty on our part and for claims, where our liability is not limited pursuant to para IX.1.
4. Any further claims because of defects of the delivered goods shall be excluded unless otherwise provided for under the following section IX.

IX. Limited Liability

We shall be liable for customer`s damage, irrespective of the legal grounds therefore, only insofar as the following terms provide our liability:
1. Irrespective of the legal grounds thereof, our liability is unlimited in case of (i) any form of intent; (ii) personal injuries, including such followed by death; (iii) breach of a guarantee, as far as our guarantee goes; (iv) liability pursuant to the German Product Liability Act or any other mandatory statutory liability regulations; and (v) misrepresentation.
2. In all other cases of our liability, the following provisions apply:
a. In case of gross negligence of persons, we use to perform our obligation, our liability is - irrespective of the legal grounds thereof - limited to 100,000 EUR and we are liable only for the foreseeable damage typical to such contracts, provided that such persons are no organ or member of the executive staff and do not breach material contractual obligations whose fulfilment is necessary to attain the purpose of the contract („cardinal obligations "). In all other cases of gross negligence, our liability is unlimited.
b. In case of slight or normal negligence we are liable only if we breach material contractual obligations whose fulfilment is necessary to attain the purpose of the contract („cardinal obligations ") and our liability is limited to 50,000 EURO - irrespective of the legal grounds for our liability.
c. Should, in a case our liability is limited to a certain amount, the amount (principally) covered by our insurance exceed such limitation, we are liable to the amount of such insur-ance sum.
3. The above provisions apply accordingly for the personal liability of our employees, repre-sentatives and organs.

X. Severability

The invalidity or non-enforceability of any term of the present General Conditions of Sale and Supply shall not affect the validity of the remaining terms and conditions thereof.

XI. Place of Performance, Jurisdiction, Applicable Law, Interpretation of Terms of Trade

1. Place of performance for all our contractual obligations is D-69115 Heidelberg. Place of jurisdiction for all disputes arising out of the contractual relationship is Heidelberg. We have the option to sue the customer at its general place of jurisdiction.
2. German law shall apply.
3. Customary terms of trade shall be interpreted in accordance with the INCOTERMS current at the time.

XII. About SERVA

1. SERVA is a limited liability company registered in the commercial register of the Local Court of Heidelberg und HRB No. 336136, duly incorporated for an unlimited duration, and validly existing under the laws of Germany.
2. Our registered offices are at Carl-Benz-Strasse 7, D-69115 Heidelberg, Germany. This address shall be used for all notices.
3. Our taxpayer's identification number for value-added tax (Umsatzsteueridentnummer) is DE 812517285.

State: 21. July 2018

The following company trademarks have been used in this catalog:

Actidione	Upjohn
Adogen	Ashland Chemical Co.
Aliquat	Cognis Corp.
Araldite	Huntsman Advanced Materials Europe
Avicel	FMC, Brussels
Brij	ICI America Inc.
Carbopol	B.F. Goodrich Chemical Co.
Celite	Manville Corp.
Cibacron Blue	Ciba-Geigy
Colcemid	Ciba-Geigy
Cohn Analog	Proliant Biologicals, USA
Coomassie	ICI Ltd.
Cyanase	RiboSolutions
D.E.R.	Dow Chemical Company
Detergent 7X	MP Biomedicals (ICN Pharmaceuticals Inc.)
DOWEX	Dow Chemical Company
Ferrozine	Diagnostic Chemicals, Canada
Ficoll	GE Healthcare
Float-A-Lyzer	Spectrum Medical Industries
Fluram	Hoffmann La Roche
Funcelase	Yakult Honsha Co., Japan
Gelrite	Merck & Co., Inc. , USA
Geneticin	L T I
ICPL	TopLab GmbH, Martinsried, Germany
Immobilon	Millipore
MEMBRA-CEL	Viskase Corp./USA
micro Float-A-Lyzer	Spectrum Medical Industries
Montanox	Seppic, France
Norit	Norit B.V.
Nycodenz	Axis-Shield, Norway
Nycoprep	Axis-Shield, Norway
Nytran-N	Schleicher&Schüll
Parafilm	American Can Co.
PATH-O-CYTE	Miles Pentex
PEFABLOC	Pentapharm Ltd.
Pluronic	BASF AG
Polyclar	GAF Corp. USA
PRIONEX	Pentapharm Ltd.
Pronase	Calbiochem-Novabiochem Corp.
Renlam	Huntsman Advanced Materials Europe
SERA-MAG	Seradyn USA
Spectra/Por	Spectrum Medical Industries
Synperonic	ICI Ltd.
Triton	Union Carbide Corporation
Trasylol	Bayer AG
Tween	ICI America, Inc.

The following are trademarks of SERVA Electrophoresis GmbH:

BlueBlot
BlueFlash
BlueHorizon
BlueLine
BlueMarine
BluePower
BlueSlick
BlueVertical
GEL-FIX
HPE
Merbital
Net-Fix
PRECOTES
PreNets
PRiME
SERDOLIT
SERVA
SERVACEL
SERVAGel
SERVALYT
SERVAPOR

SERVA worldwide – www.serva.de

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D-69115 Heidelberg
Germany

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Internet: www.serva.de

German Customers

To place orders
Phone: 06221 13840-0
Fax: 06221 13840-10
Toll Free Phone: 0800 7378246
Toll Free Fax: 0800 7378247

Customer Care
Phone: 06221 13840-46
Fax: 06221 13840-10

Technical Service
Phone: 06221 13840-44
Fax: 06221 13840-54
E-Mail: tech.service@serva.de

International Customers

To place orders
Phone: +49 6221 13840-0
Fax: +49 6221 13840-10
Or contact your local distributor
For more information please visit www.serva.de

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Technical Service
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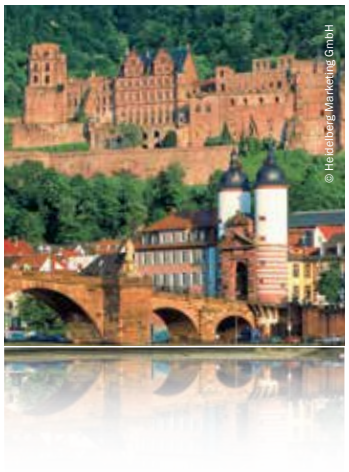
Fax: +49 6221 13840-54
E-Mail: tech.service@serva.de



SERVA

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