

ReAction No.1

Product Selection March 2015

SDS-PAGE and Western blotting

Description	Order No.	Quantity
SDS-PAGE		
Acrylamide 4K solution (30%) - Mix 29 : 1	A0951,0500	500 ml
Acrylamide 4K solution (40%) - Mix 29 : 1	A0950,1000	1 L
Acrylamide 4K solution (30%) - Mix 37.5 : 1	A1672,0500	500 ml
	A1672,1000	1 L
Acrylamide 4K solution (40%) - Mix 37.5 : 1	A1577,1000	1 L
Ammonium Persulfate <i>BioChemica</i>	A1142,0250	250 g
TEMED	A1148,0100	100 ml
	A1148,0250	250 ml
SDS solution 10% for molecular biology	A0676,1000	1 L
SDS solution 20% for molecular biology	A0675,0500	500 ml
SDS-Tris-Glycine buffer (10X) <i>BioChemica</i>	A1415,1000	1 L
Tris-Glycine buffer (10X) <i>BioChemica</i>	A1418,1000	1 L
DTT <i>BioChemica</i>	A1101,0010	10 g
β -Mercaptoethanol <i>BioChemica</i>	A4338,0250	250 ml
Protein Marker I (14–116)	A5238,0500	500 μ l
Protein Marker II (6.5–200) prestained	A5418,0250	250 μ l
Protein Marker III (6.5–200)	A4402,0001	1 ml
Protein Marker IV (10–150)	A3993,0500	500 μ l
Protein Marker VI (10–245) prestained	A8889,0500	500 μ l
Coomassie® Brilliant Blue G-250 (C.I. 42655)	A3480,0010	10 g
Ponceau S solution	A2935,0500	500 ml
Methanol <i>BioChemica</i>	A3493,1000PE	1 L
Ethanol absolute <i>BioChemica</i>	A3693,2500PE	2.5 L



**NEW CATALOGUE
2015–2017**

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Description	Order No.	Quantity
Transfer and Blocking		
Pure Nitrocellulose unsupported 0.45 µm Transfer Membrane	A5239,3030R	1 roll 30 cm x 3 m
PVDF-Star Transfer Membrane 0.45 µm	A5243,3030R	1 roll 30 cm x 3 m
Blocking Buffer I High-end blocking buffer, based on chemically modified low-molecular weight casein	A7099,0125	125 ml
Blocking Reagent CA Based on Casein from bovine, Biotin-free	A3409,0010	10 g
Blocking Buffer III BSA	A7252,0500	500 ml
Albumin Fraction V (pH 7.0) for Western blotting	A6588,0100	100 g
Nonfat dried milk powder	A0830,1000	1 kg
Tween® 20 BioChemica	A1389,1000	1 L
CrossDown Buffer Ready-to-use product for sample and/or antibody dilution. Strongly reduces unspecific binding, cross reactivities and matrix effects.	A6485,0125	125 ml
Signal Development		
CheLuminate-HRP FemtoDetect Outstanding signal duration of up to 12 hours. Detection limit is in the range of high-femtograms; sufficient for 500 cm ²	A7807,0500	1 Kit
CheLuminate-HRP ELISA FemtoDetect Long signal duration; optimized for test tube or microplate luminometer based applications; excellent low-end linearity of dose-response curves; mid-femtogram detection limit; sufficient for 5x96 wells	A8055,0100	1 Kit
3,3',5,5'-Tetramethylbenzidine BioChemica (TMB)	A3840,0005	5 g
ABTS® BioChemica	A1088,0005	5 g
NBT BioChemica	A1243,0005	5 g
BCIP BioChemica	A1117,0001	1 g
4-Nitrophenyl Phosphate Disodium Salt 6-hydrate BioChemica (PNPP)	A1442,0025	25 g



Ammonium Persulfate BioChemica
A1142,0250

TEMED
A1148,0100



Agarose Gel Electrophoresis

Description	Order No.	Quantity
Loading buffer DNA II 6 x gel loading buffer for DNA	A2571,0025	25 ml
Loading buffer DNA IV (for Agarose gels) 10 x gel loading buffer for DNA, includes tracking dyes BPB and XC	A3481,0010	10 ml
TAE buffer (10x) for molecular biology	A4227,1000	1 L
TBE buffer (10x) for molecular biology	A3945,1000	1 L
Agarose Basic for routine gel electrophoresis at Agarose concentrations 0.8 – 2%	A8963,0250	250 g
Agarose MP for a broad range of fragment sizes. Perfect choice for the separation of small DNA fragments (\leq 50 kb to 100 bp)	A1091,0250	250 g
Agarose low EEO (Agarose Standard) for analytical and preparative gels with a very good resolution	A2114,0250	250 g
Agarose medium EEO recommended for electrophoresis of serum proteins and immunoelectrophoresis; not suited for blotting experiments	A2116,0100	100 g
Agarose high EEO for electrophoresis of serum proteins, immunoelectrophoresis and counter immunoelectrophoresis	A2115,0500	500 g
Agarose Low Melt Large DNA grade low melting point Agarose optimized for large DNA fragments (\geq 1000 bp)	A3762,0025	25 g

Release DNA!

DNA Isolation Spin-Kit Agarose for the efficient DNA isolation from Agarose gels

- ✓ performance of the electrophoresis in either TAE or TBE buffer
- ✓ Isolation of DNA fragments in the range of 100 – 6000 bp
- ✓ Binding capacity of the columns 10 μ g

Description	Order No.	Quantity
DNA Isolation Spin-Kit Agarose	A5193,0050	50 Isol.

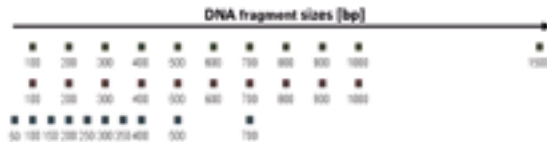
Gel Electrophoresis Size Markers

Description	Order No.	Quantity
DNA Ladder 1 kb 13 DNA fragments from 250 bp – 10 kb, conc. 0.2 mg/ml, supplied in storage buffer	A5207,0005	50 µg (100 lanes)
DNA Ladder 100 bp plus 11 DNA fragments from 100 – 1500 bp, conc. 0.2 mg/ml, supplied in storage buffer	A5216,0005	50 µg (100 lanes)
DNA Ladder 100 bp 10 DNA fragments from 100 – 1000 bp, conc. 0.2 mg/ml, supplied in storage buffer	A5191,0005	50 µg (100 lanes)
DNA Ladder 50 bp 10 DNA fragments from 50 – 700 bp, conc. 0.1 mg/ml, provided ready-to-use in loading buffer	A8368,0050	50 µg (100 lanes)

DNA Ladder 100 bp plus (A5216):

DNA Ladder 100 bp (A5191):

DNA Ladder 50 bp (A8368):



About Storage of DNA Markers

Pure DNA is quite stable. DNA markers dissolved in water, storage buffer or loading buffer are also fairly stable, up to some weeks at room temperature and several weeks or months at 4 °C. However, best storage conditions for DNA markers should be considered for individual lab situations. For example, frequently used vials might get contaminated by bacteria or DNase, also repeated freeze-thaw cycles affect the quality of DNA standards.

We therefore recommend preparation of aliquots of DNA markers at suitable volume that can be stored at -20 °C for years. For example: If you are typically running two lanes of 5 µl marker DNA with every electrophoresis, prepare an aliquot of 110 µl and freeze it. Use this vial for 10 gel runs. Including 20x5 µl marker plus 10 µl extra to compensate for pipetting errors.



Enzyme Assays

Description	Order No.	Quantity
2-Nitrophenyl-β-D-Galactopyranoside <i>BioChemica</i> (ONPG)	A1272,0025	25 g
	A1272,0100	100 g
3,3'-Diaminobenzidine Tetrahydrochloride <i>BioChemica</i> (DAB)	A0596,0005	5 g
4-Nitrophenyl-β-D-Glucuronide <i>BioChemica</i>	A1028,0005	5 g
α-D-Galactose-1-Phosphate Dipotassium Salt 2-hydrate <i>BioChemica</i>	A6823,0100	100 mg
Acetyl-Coenzym A Trilithium Salt <i>BioChemica</i>	A3753,0050	50 mg
	A3753,0100	100 mg
Coenzyme A Trilithium Salt 2-hydrate <i>BioChemica</i>	A0813,0100	100 mg
D-Luciferin Sodium Salt	A1006,0025	25 mg
	A1006,0100	100 mg
Flavin Adenine Dinucleotide Disodium Salt 2-hydrate <i>BioChemica</i> (FAD)	A2163,0500	500 mg
	A1008,0025	25 g
IPTG <i>BioChemica</i>	A1008,0050	50 g
	A4773,0005	5 g
IPTG for molecular biology	A4773,0025	25 g
NAD	A1124,0025	25 g
NADH Disodium Salt	A1393,0005	5 g
NADP Sodium Salt	A1394,0005	5 g

2-Nitrophenyl- β -D-Galactopyranoside *BioChemica* (ONPG)
A1272,0025
3,3'-Diaminobenzidine Tetrahydrochloride *BioChemica* (DAB)
A0596,0005



Description	Order No.	Quantity
NADPH Tetrasodium Salt	A1395,0001	1 g
N-α-Benzoyl-DL-Arginine p-Nitroanilide Hydrochloride <i>BioChemica</i>	A5030,0005	5 g
N-α-Benzoyl-L-Arginine Ethyl Ester Hydrochloride (BAEE) <i>BioChemica</i>	A3770,0005	5 g
X-Gal <i>BioChemica</i>	A1007,0001	1 g
	A1007,0005	5 g
X-Gal for molecular biology	A4978,0500	500 mg
X-Glucuro CHA Salt <i>BioChemica</i>	A1113,0001	1 g

Enzyme activity

Activity of an enzyme is defined as the amount of substrate converted per time unit. Enzyme activity therefore is a measure of the quantity of active enzyme present in a sample and strongly depends on conditions such as temperature, pressure, chemical environment (e.g. pH), and concentration of substrate. To express enzyme activity, different units are used:

$$1 \text{ katal} = 1 \text{ mol s}^{-1}$$

$$1 \text{ U (enzyme unit)} = 1 \mu\text{mol min}^{-1}$$

1 U corresponds to 16.67 nanokatals.

Enzyme activity most often refers to the assumed natural target substrate of the enzyme, but for some enzymes standardized substrates are used.

In addition, the **specific activity of an enzyme** is defined as the activity of an enzyme per milligram of total protein (commonly expressed in $\mu\text{mol min}^{-1} \text{mg}^{-1}$). The specific activity allows evaluation of enzyme purity in the (protein-) mixture.

Buffer Solutions

A good working buffer system consists of a weak acid or a weak base mixed with its conjugate base or acid. The quality of a buffer is determined by the buffer capacity, i.e. its resistance to changes in pH when strong acids or bases are added. In other words: the buffer capacity corresponds to the amount of H^+ or OH^- ions that can be neutralized by the buffer. **Buffer capacity achieves maximum when the pH of the buffer solution is equal to the pKa of the ionizing group.** This optimum pH is characterized by equal concentration of acid and base. At a pH value one pH unit above or

below the pKa value buffer capacity gets lost. Commonly the pH value is set using NaOH/KOH or HCl. Slow addition of the acid or base while stirring vigorously avoids locally high concentrations of H^+ or OH^- ions. If a buffer substance is available in the protonized form (acid) and the non-protonized form (base), it is recommended to set the pH value by mixing the two substances.

www.applichem.com/en/products/biochemica/biological-buffer/

Description	Order No.	Quantity
Buffers components		
Acetic Acid 100% <i>BioChemica</i>	A3701,1000PE	1 L
Bicine for buffer solutions	A1024,0250	250 g
CAPS for buffer solutions	A1063,0100	100 g
Citric Acid 1-hydrate <i>BioChemica</i>	A3648,1000	1 kg
Glycine <i>BioChemica</i>	A3707,1000	1 kg
HEPES for buffer solutions	A1069,1000	1 kg
Hydrochloric Acid 1 mol/l (1 M) for molecular biology	A6578,1000	1 L
MES 1-hydrate for buffer solutions	A1074,0250	250 g
MOPS for buffer solutions	A1076,0500	500 g
PBS buffer (1X, Dulbecco's) – Powder	A0964,9050	50 L
PBS tablets pH 7.4 (for 1 L)	A9201,0100	100 Tabs
Potassium Chloride <i>BioChemica</i>	A1039,0500	500 g
Potassium di-Hydrogen Phosphate <i>BioChemica</i>	A1043,1000	1 kg
di-Potassium Hydrogen Phosphate anhydrous <i>BioChemica</i>	A1042,1000	1 kg
Potassium Hydroxide – Pellets <i>BioChemica</i>	A3871,0500	500 g
Sodium Acetate 3-hydrate <i>BioChemica</i>	A1045,1000	1 kg
Sodium Chloride <i>BioChemica</i>	A1149,5000	5 kg
tri-Sodium Citrate 2-hydrate <i>BioChemica</i>	A3901,1000	1 kg
Sodium di-Hydrogen Phosphate 2-hydrate <i>BioChemica</i>	A3902,1000	1 kg
di-Sodium Hydrogen Phosphate anhydrous <i>BioChemica</i>	A1046,1000	1 kg
Sodium Hydroxide pellets <i>BioChemica</i>	A3910,1000	1 kg
TAPS for buffer solutions	A1082,0100	100 g
Tricine <i>BioChemica</i>	A1085,1000	1 kg
Tris Hydrochloride for buffer solutions	A1087,1000	1 kg
Tris for buffer solutions	A1379,1000	1 kg



Glycine *BioChemica*
A3707,1000

Antibiotics for Cell Culture and Cloning

Various antibiotics have been established in combination with corresponding resistance genes as selectable markers in molecular biology. A resistance gene is introduced into the target cell by transformation or transfection. After that the genetically modified cell can be cultured in media containing an appropriate antibiotic. Cells that have not incorporated the resistance gene die or are growth inhibited. For selection purposes usually Ampicillin, Neomycin and G418 are frequently used.



Description	Order No.	Quantity
Ampicillin 3-hydrate for molecular biology	A7492,0025	25 g
Ampicillin Sodium Salt <i>BioChemica</i> Ampicillin , a β -lactam antibiotic known to interfere with the wall peptide cross-linking in growing bacteria. Usage: Stock solutions are prepared at concentrations of 50 mg/ml, stored at -20°C in aliquots. The working concentration in LB-Ampicillin plates, LB or TB medium is typically 50 $\mu\text{g}/\text{ml}$ or 100 $\mu\text{g}/\text{ml}$.	A0839,0025	25 g
G418 Disulfate <i>BioChemica</i> Usage: Prepare stock solutions at a concentration of 50 mg/ml.	A2167,0001	1 g
G418 Disulfate solution, sterile Concentration: 50 mg/ml of active antibiotic. G418 Disulfate (corresponds to Geneticin disulfate) is used for the selection of transformed cells, which have incorporated the Neomycin resistance gene. Usage: Final concentration is 50 to 1000 $\mu\text{g}/\text{ml}$, needs to be optimized for every cell line.	A6798,0020	20 ml
Chloramphenicol <i>BioChemica</i>	A1806,0025	25 g
Chloramphenicol for molecular biology	A7495,0025	25 g
Kanamycin Sulfate <i>BioChemica</i>	A1493,0025	25 g
Tetracycline hydrochloride	A2228,0025	25 g

Reagents for Clinical Diagnosis

PanReac AppliChem has a full range of products for histology, haematology and microbiology, which includes the most commonly used reagents in the process of preparing samples for examination under the microscope.

Reagents for Clinical Diagnosis

Description	Order No.	Quantity
	252931.1211	1000ml
Formaldehyde 3.7 – 4.0% buffered to pH=7 and stabilized with methanol	252931.1214	5L
	252931.1215	10L
	252931.1315	10L
	256462.0955	44 x 20 ml
	256462.0962	45 x 30 ml
Histofix® Preservative ready to use	256462.0961	45 x 40 ml
	256462.0967	24 x 75 ml
	256462.0943	16 x 125 ml
Ethanol absolute	251086.9914	5L
	251086.1215	10L
Ethanol 96% v/v	251085.1214	5L
	251085.1215	10L
Ethanol 70% v/v	252695.1215	10L
Xylene, Mixture of isomers	251769.2711	1000ml
	251769.2714	5L
Citrosol (Substitute of Xylene)	253139.1214	5L
Isoparaffin H (Substitute of Xylene)	255069.2714	5L
Paraffin M.P. 55 – 58°C plasticized + DMSO pellets	256993.0933	6 x 1 kg
	256993.0415	10 kg
Paraffin M.P. 56 – 58°C pellets	253211.0914	5 kg
Paraffin Cleaner	256876.3408	6 x 100 ml
NEW! Harris Hematoxylin modified solution	256991.1612	2.5L
Eosin Yellowish alcoholic solution 1 %	256879.1210	500 ml
Giemsas modified solution	257156.1610	500 ml
Histofluid®, mounting medium	255598.0010	500 ml
Mounting Medium for substitutes of xylene	255811.0008	100 ml
Immersion Oil	251002.1208	100 ml

Culture Media for Microbiological Control

Microbiology control is an important part of quality control in Pharma Industry. Here we present a selection of our culture media with composition and an extensive certificate of analysis according to European Pharmacopeia.

We provide the most important dehydrated media and ready-to-use plates for determination of total aerobic count (TAMC, TYMC), as well as for identification of specific microorganisms.

Media according to Ph. Eur.

Description	Order No.	Quantity
MacConkey Agar (Ph. Eur.) Selective isolation of coliform organisms and enteric pathogens (<i>E. coli</i>)	413779.1210	500 g
MacConkey Broth (Ph. Eur.) Selective isolation of coliform organisms and enteric pathogens (<i>E. coli</i>)	413780.1210	500 g
Cetrimide Agar (Ph. Eur.) Selective isolation of <i>Pseudomonas aeruginosa</i>	416256.1210	500 g
Mannitol Salt Agar (Ph. Eur.) Selective and differential medium for identification of <i>Staphylococcus aureus</i>	413783.1210	500 g
Buffered Sodium Chloride–Peptone solution (Ph. Eur.) Diluting and dissolving test samples for microbial growth tests	414944.1210	500 g
XLD, Medium (Ph. Eur.) Selective growth medium for <i>Salmonella</i> species	413826.1210	500 g
Tryptone Soy Agar (TSA) (Ph. Eur.) Microbial count agar (TAMC; TYMC)	413819.1210 453819.0922	500 g 20 plates 90 mm
Tryptone Soy Agar (TSA) (Ph. Eur.) (Contact Plate) Microbial count agar (TAMC; TYMC)	433819.0922	30 plates 55 mm
TSA–Tween–Lecithin–Agar (Ph. Eur.) (Contact Plate)	435095.0922	30 plates 55 mm
Sabouraud Glucose Agar+Chloramphenicol (Ph. Eur.) Selective isolation of fungi	413842.1210 453842.0922	500 g 20 plates 90 mm
R2A Agar (Ph. Eur.) Enumeration of heterotrophic bacteria	416197.1210 446197.0922	500 g 30 plates 55 mm
Dehydrated media for general applications		
Buffered Peptone Water (ISO 6579, ISO 22964, ISO 6887, DIN 10181, 10160)	413795.1210	500 g
Violet Red Bile Glucose Agar (VRBG) (Ph. Eur.) (ISO 21528)	413745.1210	500 g
Standard Methods Agar (APHA) (ISO 4833:2003)	413799.1210	500 g
Nutrient Agar (ISO 6579, ISO 10273, ISO 19250)	413792.1210	500 g
Tryptone Soy Broth (TSB) (Ph. Eur.)	413820.1210	500 g