SERVA

serving scientists

Electrophoresis by SERVA

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- Equipment

SERVA Serving Scientists

Offering a portfolio of more than 2,500 products, SERVA Electrophoresis GmbH is a global leader in providing innovative solutions and technical support to life scientists in academic research and commercial organizations. Our products help to proceed in the laboratory and to simplify the day-to-day work flow for researchers – a comprehensive assortment covering cellular and protein analysis, biochemistry, enzymology, microbiology, microscopy, bioseparation and more.

SERVA Serving Scientists – technical competence and total quality management are our basis for continuous improvement and service. Our policy is to pursue the highest standards in product quality, workplace safety and responsibility for the environment we live in. We dedicate expertise and integrity to guarantee consistent product performance and continuity of supply.

SERVA is ISO 9001:2015 certified.

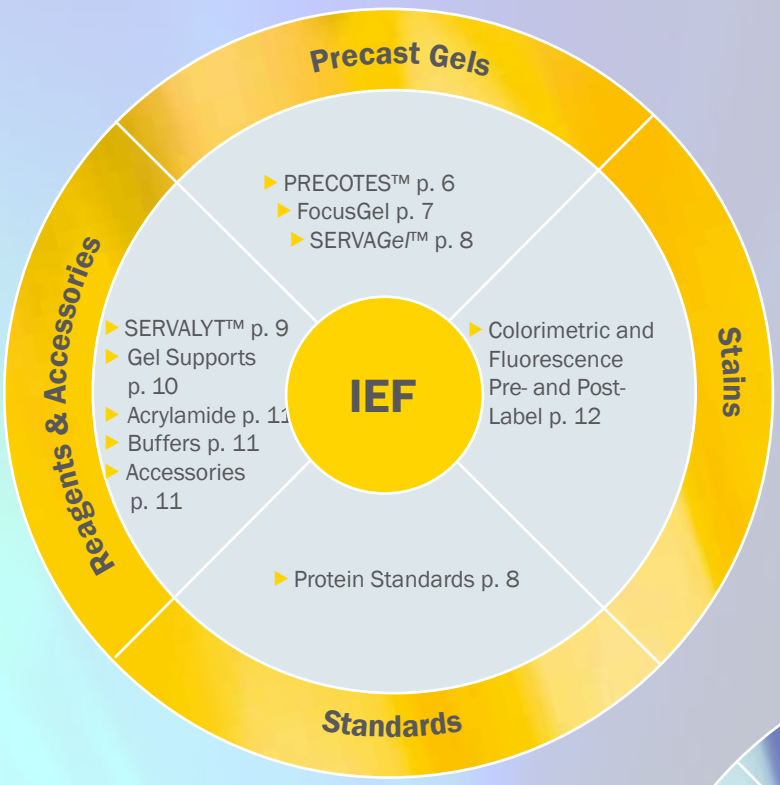
Electrophoresis Made by SERVA

SERVA holds significant intellectual property – electrophoresis specialities are developed and produced at site in Heidelberg, Germany, we are well known for our ampholytes (SERVALYT™) and the wide range of precast gels for vertical and horizontal operation. Proprietary production processes and chemistries continue to be designed and implemented, fueled by many years of expertise to provide unique quality products.

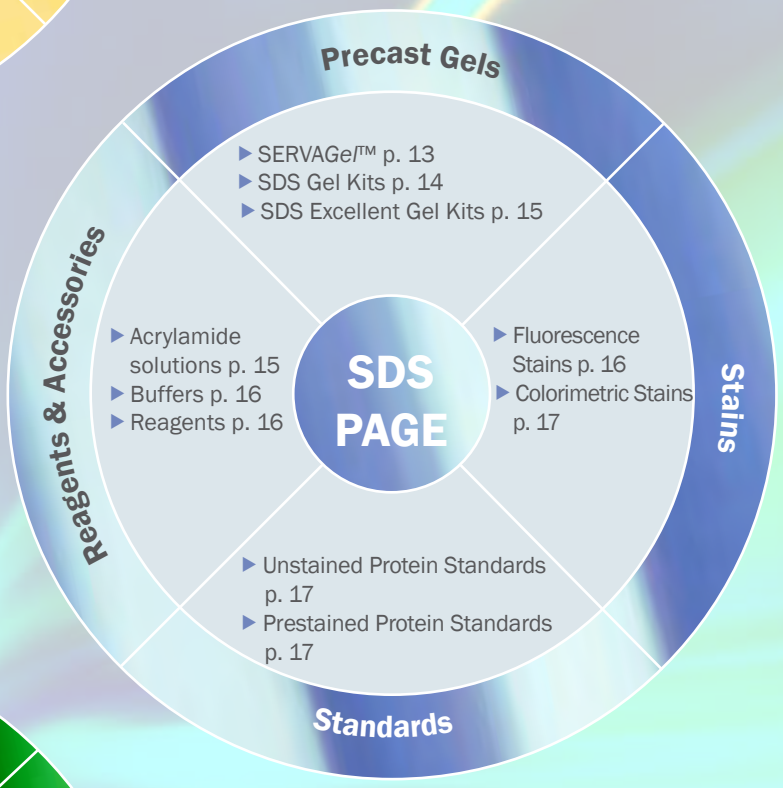
Complimentary to the reagent line SERVA offers the unique range of Blue*Line™* instrumentation – equipment of high-end quality to deliver best performance: the PRiME™ electrophoresis tank and the submarine units, blotters, power supplies, gel documentation systems and our unique HPE™ flatbed single- and multilevel systems – outstanding separation results are achieved in combination with SERVA's film-based horizontal precast gels for 1D and 2D gel electrophoresis.

HPE™ BlueHorizon™ - the better flatbed electrophoresis system!

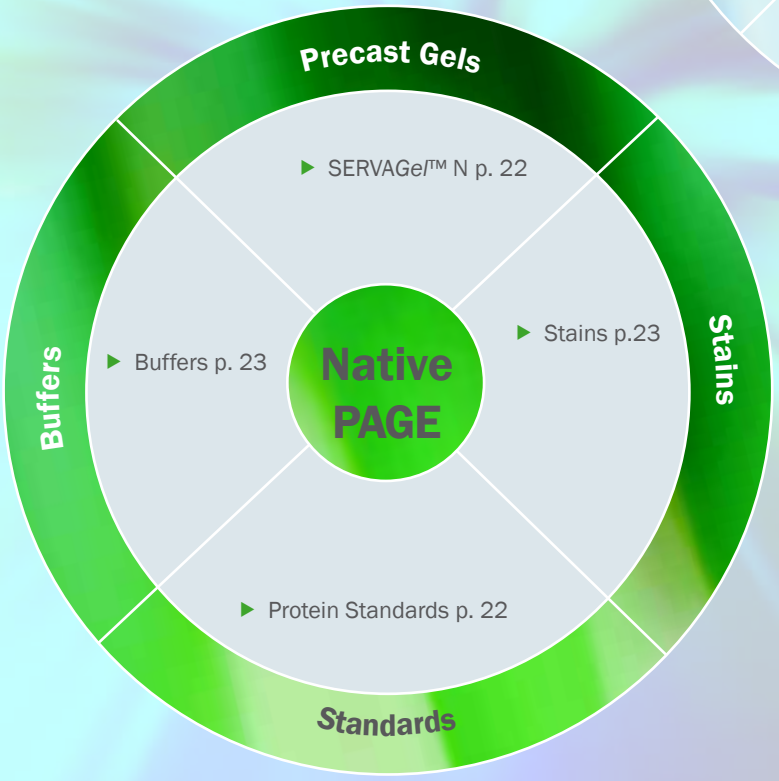
Content



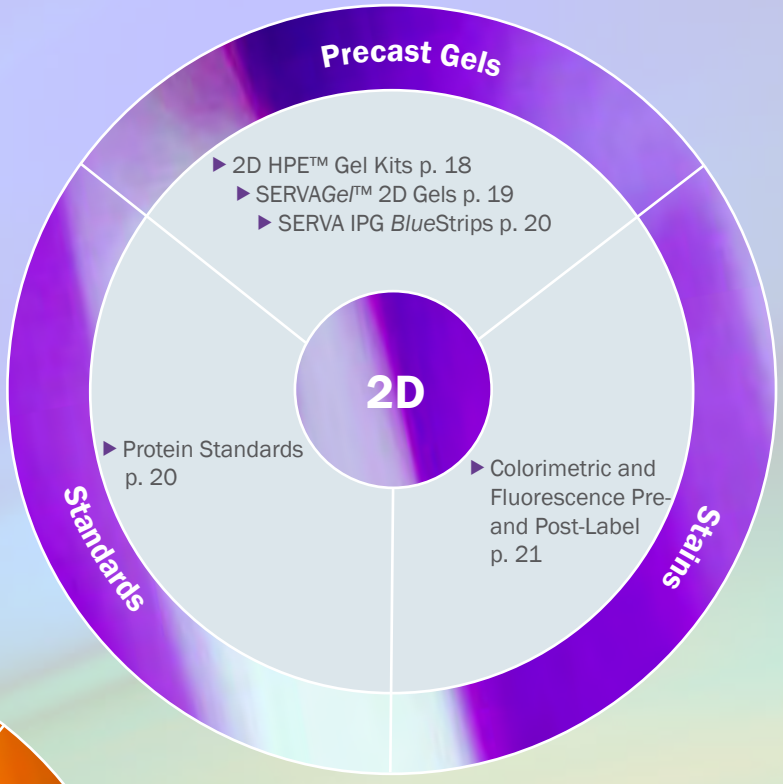
Isoelectric Focusing



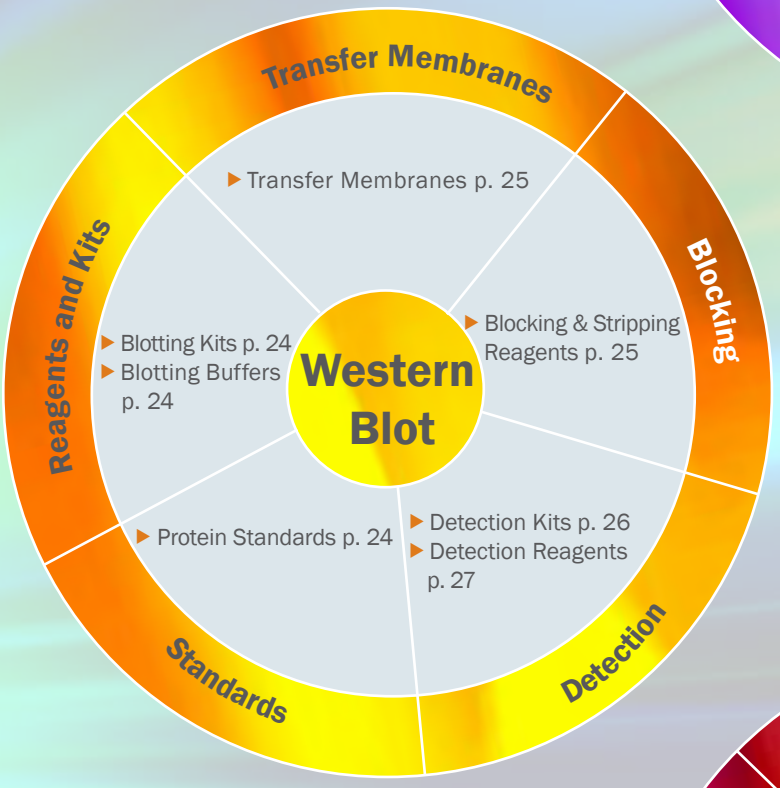
SDS PAGE



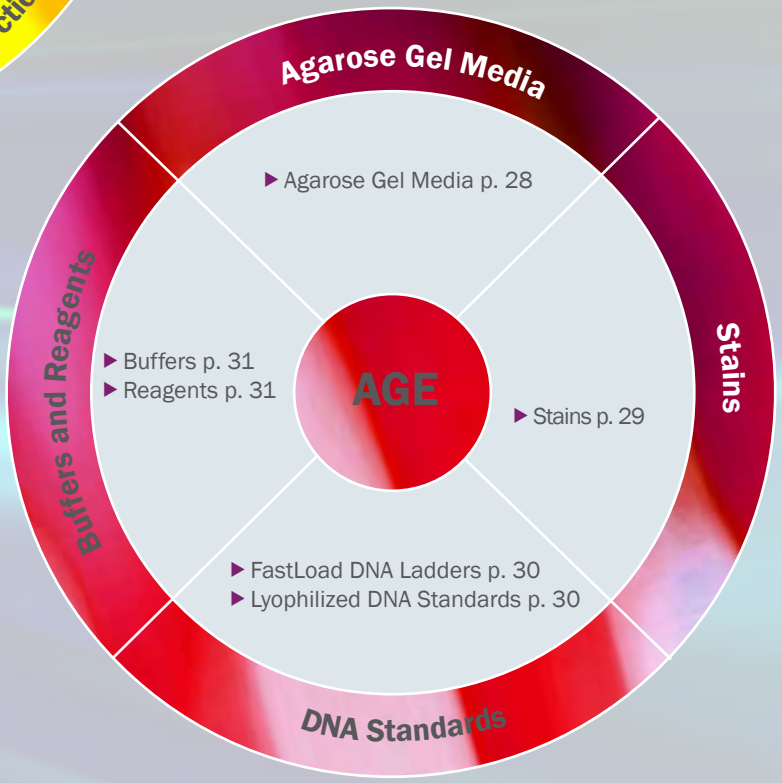
Native PAGE



2D Electrophoresis



Western Blotting



Nucleic Acid Electrophoresis

Isolelectric Focusing

SERVA Gels for Horizontal Isoelectric Focusing (IEF)

SERVA offers a broad range of precast polyacrylamide gels for horizontal isoelectric focusing. The poylacrylamide layer is either bound to a sturdy support GEL-FIX™, an inert polyester film, activated to bind irreversibly to polyacrylamide, or to NetFix™, an inert polyester fabric, activated to bind polyacrylamide but open to both sides of the gel. NetFix™ is particularly useful when blotting is applied after electrophoresis as it stabilizes the gel but leaves both gel surfaces open, suitable for transfer. The surface of each precast gel is protected with a thin cover sheet (GEL-FIX™ Covers) against damage and drying out. SERVA precast gels are separately packed, each individually sealed in an aluthen bag which adds to longevity. SERVA precast gels are ready-to-use and offered with thin and ultrathin gel layers.

SERVALYT™ PRECOTES™:
General purpose gels, ready-to-use, selected pH ranges and formats.

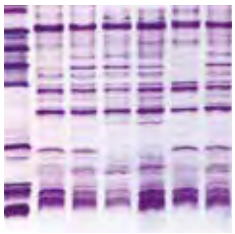
SERVALYT™ PRECOTES™ CSF Kit:
Gels optimized for CSF analysis.

SERVALYT™ PreNets™:
Ready-to-use gels with NetFix™, ideally suited for subsequent Western Blotting.

Blank PRECOTES™ / PreNets™:
Multifunctional precast gels for any pH range, to be equilibrated in any carrier ampholyte of choice, also suited for IEF in the presence of urea. Blank PreNets™ are ideally suited for subsequent Western Blotting.

FocusGels:
Non-toxic gels with high buffering capacity, ideally suited for salt carrying samples e.g. CSF, ready-to-use, selected pH ranges and formats, available with or without slots.

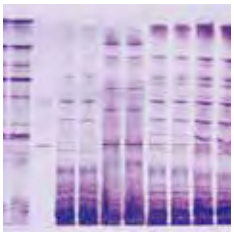
Blank FocusGels:
Precast gels for any pH range, to be equilibrated in any carrier ampholyte of choice. Gel matrix with high buffer capacity, available either with or without slots.



SERVALYT™ PRECOTES™

Horizontal precast polyacrylamide gels for IEF. The ultra-thin gel 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 ripping of the gel matrix. The thin cover sheet (GEL-FIX™ Covers) prevents the surface from drying out and damages.

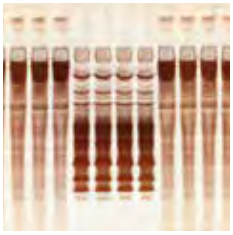
Product	Size	Cat. no.
SERVALYT™ PRECOTES™ pH 3–6, size: 125 mm x 125 mm x 0.15 mm	5 gels	42974.02
SERVALYT™ PRECOTES™ pH 3–6, size: 125 mm x 125 mm x 0.3 mm	5 gels	42874.02
SERVALYT™ PRECOTES™ pH 3–6, size: 245 mm x 125 mm x 0.15 mm	5 gels	42919.03
SERVALYT™ PRECOTES™ pH 3–10, size: 125 mm x 125 mm x 0.15 mm	5 gels	42965.03
SERVALYT™ PRECOTES™ pH 3–10, size: 125 mm x 125 mm x 0.3 mm	5 gels	42866.02
SERVALYT™ PRECOTES™ pH 3–10, size: 245 mm x 125 mm x 0.15 mm	5 gels	42967.02
SERVALYT™ PRECOTES™ pH 3–10, size: 245 mm x 125 mm x 0.3 mm	5 gels	42867.02
SERVALYT™ PRECOTES™ pH 4–6, size: 125 mm x 125 mm x 0.3 mm	5 gels	42875.02
SERVALYT™ PRECOTES™ pH 6–9, size: 125 mm x 125 mm x 0.15 mm	5 gels	42978.02
SERVALYT™ PRECOTES™ pH 6–9, size: 125 mm x 125 mm x 0.3 mm	5 gels	42878.02
SERVALYT™ PRECOTES™ CSF Kit, size 245 mm x 125 mm x 0.3 mm	1 kit	42800.01



SERVALYT™ PreNets™

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.

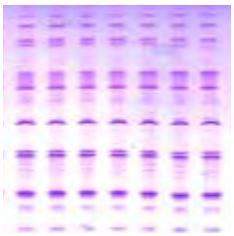
Product	Size	Cat. no.
SERVALYT™ PreNets™ pH 3–10, size: 125 mm x 125 mm x 0.3 mm	5 gels	42738.02



FocusGels

0.65 mm thick precast polyacrylamide gel, bound to GEL-FIX™ support film for IEF. The gels are non-toxic, because catalysts and other non-polymerized substances like acrylamid 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 by pipetting the protein solution into preformed slots or by using applicator strips.

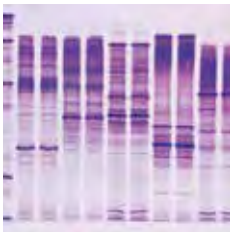
Product	Size	Cat. no.
FocusGel pH 3–10, size: 250 mm x 115 mm x 0.65 mm	5 gels	43327.01
FocusGel pH 3–10 24S, size: 250 mm x 115 mm x 0.65 mm	5 gels	43335.01
FocusGel pH 6–11 24S, size: 250 mm x 115 mm x 0.65 mm	5 gels	43329.01
FocusGel pH 6–11 40S, size: 250 mm x 115 mm x 0.65 mm	5 gels	43333.01
FocusGel pH 3–7, size: 250 mm x 115 mm x 0.65 mm	5 gels	43328.01
FocusGel pH 3–7 24S, size: 250 mm x 115 mm x 0.65 mm	5 gels	43387.01
FocusGel pH 4–5 24S, size: 250 mm x 115 mm x 0.65 mm	5 gels	43332.01
FocusGel pH 4–6 24S, size: 250 mm x 115 mm x 0.65 mm	5 gels	43334.01
FocusGel pH 6–9 HEM 24S, size: 250 mm x 115 mm x 0.65 mm	5 gels	43330.01
CSF Analysis Kit for PhastSystem™, 50 mm x 42 mm x 0.43 mm	1 kit	43393.01
SERVA IEF Gel 3-9 for PhastSystem, 50 mm x 42 mm x 0.43 mm	1 kit	43366.01



CleanGel

CleanGels IEF for PhastSystem™ are 0.43 mm thin, film-backed polyacrylamide gels for horizontal electrophoresis which are washed and dried after casting. They can be rehydrated with any buffer of your choice according to your application. The gel format fits pefectly into your PhastSystem™ electrophroesis device.

Product	Size	Cat. no.
CleanGel IEF for PhastSystem™, format 50 mm x 42 mm x 0.43 mm	20 gels	43350.01



Blank PRECOTES™/PreNets™

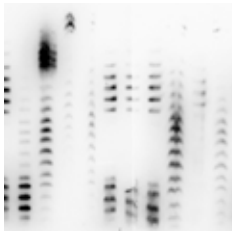
Blank PRECOTES™ are thin (0.3 mm) polyacrylamide gels cast onto GEL-FIX™ support film that contain only BisTris buffer pH 6.5. They are given the prefix »blank« to indicate that they are (almost) »empty« gels with a matrix that can be adapted to anything the user wants it to be. Blank PRECOTES™/ PreNets™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

Product	Size	Cat. no.
Blank PRECOTES™, size: 125 mm x 125 mm x 0.3 mm	5 gels	42759.01

Blank FocusGels

Blank FocusGels are equilibrated in the ampholyte mixture of choice prior to electrophoresis. Shelf life of Blank FocusGels is at least 12 months, either as blank gels (without ampholyte) or in the equilibrated form (with ampholyte, without urea).

Product	Size	Cat. no.
Blank FocusGel 24S, size: 250 mm x 115 mm x 0.65 mm	4 gels	43413.01



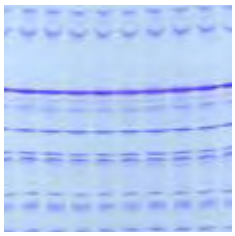
EPO Doping IEF Kit 30S

The EPO Doping IEF Kit 30S is a ready-to-use kit for differentiation of natural and recombinant erythropoietin (EPO) in doping controls according to National and World Anti-Doping Agencies.

Product	Size	Cat. no.
EPO Doping IEF Kit 30S	1 kit	43389.01

SERVAGel™ for Vertical Isoelectric Focusing (IEF)

SERVAGel™ precast vertical gels for mini slab gel electrophoresis are ready-to-use polyacrylamide gels cast into unbreakable plastic cassettes. The format of 10 cm x 10 cm is compatible with BlueVertical™ PRiME™ mini vertical gel system (BV-104) or many other commercially available slab gel tank systems. The gels are shipped individually packed in a vacuum sealed bag.



SERVAGel™ IEF

The precast gel SERVAGel ™ IEF 3 – 10 is suitable for 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.

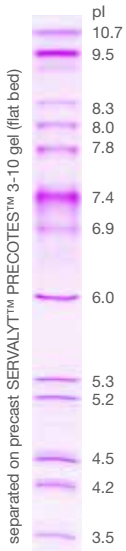
Product	Size	Cat. no.
SERVAGel™ IEF 3–10, 15 sample wells	10 gels	43239.01
SERVAGel™ IEF 3–10, 12 sample wells	10 gels	43240.01
SERVAGel™ IEF 3–10, 10 sample wells	10 gels	43242.01
SERVAGel™ IEF 4–7, 15 sample wells	10 gels	43244.01
SERVAGel™ IEF 4–7, 12 sample wells	10 gels	43241.01
SERVAGel™ IEF 4–7, 10 sample wells	10 gels	43243.01
SERVAGel™ IEF Starter Kit	1 kit	43205.01
SERVAGel™ IEF Runnig Buffer Kit	1 kit	42539.01
IEF Sample Buffer (2x), sterile filtered	20 ml	42537.01

Please note: SERVAGel™ precast gels are also available as 2 gels/pack. Ordering information at www.serva.de.

SERVA Protein Standards for Isoelectric Focusing (IEF)

To determine the isoelectric points of unknown proteins the pH of focused bands may be measured on the gel using a surface electrode. Quite common is the pI determination via coelectrophoresis of known protein marker mixtures. By simply comparing the position of unknown protein bands to the position of known marker proteins the pI values can be interpolated quite accurately.

- Ready-to-use protein markers for isoelectric focusing
- One standard applicable to all IEF gels (vertical/horizontal)
- Purified protein components, salt-free
- 13 isoforms featuring characteristic patterns
- For determination of pI of unknown protein samples
- For monitoring the separation performance of IEF gels



Protein Standards

Product	Size	Cat. no.
Protein Test Mixture for pI Determination, pH 3–10	10 mg	39211.01
IEF Marker 3–10, liquid mix	500 µl	39212.01

SERVALYT™ Carrier Ampholytes

SERVALYT™ Carrier Ampholytes are low molecular weight molecules of zwitterionic character. They are a mixture of synthetically derived species of average molecular weight distribution of 400 to 1000 dalton and comprise a multitude of varying pI-values. In agarose and polyacrylamide gels containing ampholytes, a linear pH gradient will be built up when an electric field is applied - the ampholyte molecules »carry« a net charge and thus migrate in the electric field between the electrodes as long as they will reach the position of corresponding pI. They will stop moving then and form small plateaus (stationary stacks).

- High resolution due to multimeric composition
- Fast staining and destaining times
- Clear background associated with very low unspecific binding of dyes and stains
- High solubility in trichloroacetic acid (fast removal of ampholytes during fixation)
- Virtually no interaction with metal ions

SERVALYT™

SERVALYT™	2 ml* Cat. no.	10 ml* Cat. no.	25 ml* Cat. no.	100 ml* Cat. no.
2–4	–	42902.01	42902.02	–
2–9 Seed Mix	–	42935.01	42935.02	42935.03
2–11	–	42900.01	42900.02	–
3–4	–	42922.01	42922.02	–
3–5	42903.04	42903.01	42903.02	–
3–6	42944.04	42944.01	42944.02	–
3–7	–	42945.01	42945.02	–
3–10	42940.04	42940.01	42940.02	–
3–10 IsoDalt	42951.04	42951.01	42951.02	
4–5	–	42923.01	42923.02	–
4–6	42904.04	42904.01	42904.02	–
4–7	42948.04	42948.01	42948.02	–
4–9 T	–	42910.01	42910.02	42910.03
4.2–4.9	–	42926.01	42926.02	–
5–6	–	42924.01	42924.02	–
5–7	42905.04	42905.01	42905.02	–
5–8	42949.04	42949.01	42949.02	–
5–9	–	42950.01	42950.02	–
6–7	–	42925.01	42925.02	–
6–8	42906.04	42906.01	42906.02	–
6–9	42913.04	42913.01	42913.02	–
7–9	42907.04	42907.01	42907.02	–
8–10	–	42911.01	42911.02	–
9–11	–	42909.01	42909.02	–

* 40% in water; other pack sizes on request

Application areas and specific applications by employing SERVALYT™ carrier ampholytes

Agriculture	Food	Veterinary	Health/Biotechnology
Sorghum	Meat	Pork	EPO Doping
Wheat	Cheese	Cattle	Urine protein analysis
Durum Wheat	Milk	Turkey	Multiple Sclerosis
Barley	Pasta	Chicken	Bee venom
Maize		Fish	Antibodies
Potato			Recombinant proteins
Carot			HCP Analysis
Seeds			

Supporting Films and Fabrics for Casting Gels

GEL-FIX™ products are sturdy supports for gels to be incorporated during casting. GEL FIX™ is made from polyester film. Both surfaces of the film are chemically activated providing covalent binding to the gel layer. The gel will adhere to the GEL-FIX™ film not only during electrophoresis but in all subsequent staining and fixing procedures. Thus, it supports the gel layer maintaining exact shape and size (no shrinking, no swelling, no tearing). For documentation, the film-bound gel can be air-dried just as easy at room temperature to result in a transparent film, ideally suited to store the original gel in the laboratory notebook or to acquire it for electronic date processing.
GEL-FIX™ for Covers is used to protect the surface of a cast gel from drying out but prevents the gel from adhesion.
NetFix™ is an inert, reinforcing fabric which serves as an ideal support for gel layers. If the polyacrylamide gel is subject to blotting after electrophoresis we recommend NetFix™ for PAG. The polyester fabric is activated to bind polyacrylamide.

- GEL-FIX™ can be cut into every desired size
- GEL-FIX™ is stable to temperatures up to 110 °C
- GEL-FIX™ shelf life time is 24 months if stored dry/dark
- GEL-FIX™ is transparent to UV light above 310 nm
- NetFix™ for blotting

GEL-FIX™ for PAG

For casting of polyacrylamide gels - 0.18 mm polyester film, activated on both sides to bind polyacrylamide gels (for polymer concentration of at least 10 % or higher).

Product	Size	Cat. no.
GEL-FIX™ for PAG, 265 mm x 193 mm	36 sheets	42983.01
GEL-FIX™ for PAG, 265 mm x 125 mm	36 sheets	42993.01
GEL-FIX™ for PAG, 260 mm x 203 mm	36 sheets	42961.01
GEL-FIX™ for PAG, 260 mm x 125 mm	36 sheets	42999.01
GEL-FIX™ for PAG, 245 mm x 125 mm	36 sheets	42980.01
GEL-FIX™ for PAG, 200 m x 193 mm	1 roll	42996.01
GEL-FIX™ for PAG, 50 m x 193 mm	1 roll	42968.01
GEL-FIX™ for PAG, 50 m x 125 mm	1 roll	42966.01

GEL-FIX™ for Agarose

For casting of agarose gels - 0.18 mm polyester film, activated on both sides to bind agarose gel layers covalently.

Product	Size	Cat. no.
GEL-FIX™ for Agarose, 265 mm x 125 mm	36 sheets	42981.01
GEL-FIX™ for Agarose, 258 mm x 125 mm	36 sheets	42982.01
GEL-FIX™ for Agarose, 125 mm x 125 mm	36 sheets	42997.01
GEL-FIX™ for Agarose, 80 mm x 125 mm	36 sheets	42998.01

GEL-FIX™ Covers

For covering gel surfaces - 0.075 mm polyester film, non-binding, suitable for polyacrylamide and agarose gels.

Product	Size	Cat. no.
GEL-FIX™ Covers, 280 mm x 125 mm	36 sheets	42995.01
GEL-FIX™ Covers, 265 mm x 193 mm	36 sheets	42969.01
GEL-FIX™ Covers, 265 mm x 125 mm	36 sheets	42970.01
GEL-FIX™ Covers, 245 mm x 125 mm	36 sheets	42957.01

NetFix™ for PAG

NetFix™ allows convenient, safe handling as the gel is reinforced with the NetFix™ layer. The net is incorporated into the matrix during the casting process but will not interfere with electrophoresis or blotting. The gel will stay in shape while moving it. The polyester sheet, untreated, is used as backing to support horizontal gels prepared with NetFix™.

Product	Size	Cat. no.
NetFix™ for PAG, 265 mm x 125 mm	36 sheets	42775.01

Reagents and Accessories to Cast and Run Gels

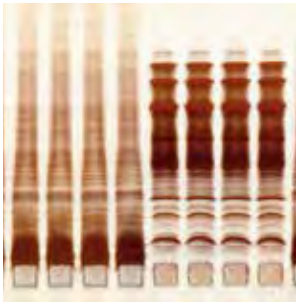
SERVA's ready-to-use acrylamide/bis, acrylamide and N,N'-methylene bisacrylamide stock solutions allow you to cast your own gels with the desired acrylamide/ bisacrylamide ratio. The solutions are made from highly purified acrylamide and N,N'-methylene bisacrylamide, stabilized and application tested in isoelectric focusing. Minimize your health risk and optimize your results.
Agarose SERVA neutral for IEF is a premium grade agarose for isoelectric focusing, chemically treated to neutralize residual negative charge sites, virtually eliminating electroendosmosis.
Reagents like buffers and cooling contact fluid are available as well as accessories like applicator strips, cooling contact fluid, electrode wicks or glass plates.

Reagents and Accessories for Isoelectric Focusing

Product	Size	Cat. no.
Acrylamide/Bis Solution, 29:1 (40 % w/v), 3.3 % C	500 ml	10680.01
	1 L	10680.03
	4x 500 ml	10680.02
Acrylamide/Bis Solution, 29:1 (30 % w/v), 3.3 % C	500 ml	10687.01
	1 L	10687.03
	4x 500 ml	10687.02
Acrylamide 4X Solution (40 % w/v)	1 L	10677.01
N,N'-Methylene bisacrylamide 2X Solution (2 % w/v)	1 L	29197.01
Agarose SERVA neutral for IEF	5 g	11402.02
Ammonium persulfate (APS), electrophoresis grade	50 g	13376.01
	250 g	13376.02
N, N, N', N'- Tetramethyl-ethylenediamine (TEMED), electrophoresis grade	10 ml	35930.01
	25 ml	35930.02
IEF Sample Buffer (2x), sterile filtered	20 ml	42537.01
Anode Fluid 3 for IEF	50 ml	42984.03
Cathode Fluid 10 for IEF	50 ml	42986.03
Applicator Strips 2 x 3.5, 19 slots, 100 mm long	6 pieces	42914.01
Applicator Strips 3.5 x 2, 15 slots, 100 mm long	6 pieces	42915.01
Applicator Strips 3.5 x 2, 43 slots, 240 mm long	3 pieces	42899.01
Applicator Strips 7 x 1.2, 24 slots, 263 mm long	3 pieces	42989.01
Applicator Strips Kit	1 kit	42937.02
Sample Application Pieces 10 mm x 5 mm	200 pieces	42880.01
Kerosene, low odor	1 L	26945.01
Bayol F	100 ml	14500.01
	1 L	14500.02
Cooling Contact Fluid	50 ml	43371.01
	3 x 50 ml	43371.02
Electrode Wicks extra size, 300 mm x 6 mm x 1 mm	100 pieces	42972.03
Electrode Wicks long size, 240 mm x 6 mm x 1 mm	100 pieces	42987.03
Electrode Wicks standard size, 120 mm x 6 mm x 1 mm	100 pieces	42988.01
BlueSlick™	250 ml	42500.01
Gasket 0.5 mm, 264 mm x 126 mm	6 pieces	42929.01
Gaskets 1.0 mm, 264 mm x 126 mm	6 pieces	42930.01
Glass Plates 265 mm x 128 mm x 3 mm	4 pieces	42952.01
Roller for Electrophoresis	1 piece	42991.01

SERVA Stains for IEF Gels

Depending on the required sensitivity and/or application IEF gels may be stained either by SERVA Blue W, SERVA Violet 17 or by silver. The SERVA Violet 17 Staining Kit is a fast and convenient solution for rapid staining in routine applications. SERVA offers two different silver staining kits for highly sensitive staining of protein bands. For staining gels in diagnostics of Multiple Sclerosis (MS) the SERVA CSF Silver Staining Kit has been developed. Besides kits as complete solutions a comprehensive product line of dyes and reagents for staining IEF gels is available.



Stains

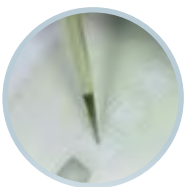
Product	Size	Cat. no.
SERVA Violet 17 Staining Kit	1 kit	35074.01
SERVA Silver Staining Kit Native PAGE	1 kit	35077.01
SERVA CSF Silver Staining Kit	1 kit	43398.01
SERVA Blue G	25 g	35050.02
	100 g	35050.03
SERVA Blue R	25 g	35051.02
	100 g	35051.03
SERVA Blue W	25 g	35053.02
	100 g	35053.03
SERVA Violet 17	25 g	35072.02
	100 g	35072.03
Coomassie® Brilliant Blue G 250	25 g	17524.01
	100 g	17524.02
Coomassie® Brilliant Blue R 250	25 g	17525.01
	100 g	17525.02

HPE™ BlueHorizon™ - Optimized Performance in Flatbed Gel Electrophoresis

- Compatible with all types of flatbed gel electrophoresis
- Highest resolution achieved using premium quality ceramic cooling plate
- Thin polyacrylamide gels, format up to 260 mm x 205 mm
- Broad range of precast gels for versatile applications available
- Complete range of reagents and consumables for self-casting of flatbed gels available
- IQ/OQ/PQ qualification on request
- Technical support and workshops
- Replacement of MultiPhor II™: compatible format

Stackable: Up to 4 units for simultaneous operation

Safety lid with unbreakable, robust platinum electrodes, flexible positioning



Low buffer consumption, gels are easy to load

For more information please go to page 34.

SDS Polyacrylamide Gel Electrophoresis

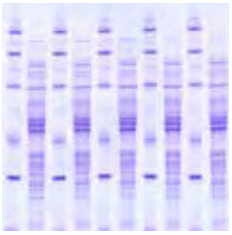
SERVAGel™ for Vertical SDS PAGE

SERVAGel™ precast vertical gels for mini slab gel electrophoresis are ready-to-use polyacrylamide gels cast into unbreakable plastic cassettes. The gels are individually packed in a vacuum sealed bag. Using the precast gels you can separate your protein samples in the presence (SDS PAGE) or absence (native PAGE) of SDS. The main benefits of SERVAGel™ precast gels are the superior separation performance, the excellent staining/destaining properties and the overall easy handling.
With the 1 mm thin gels 10, 12 or 15 samples can be analyzed, the separation distance is 7 cm. The cassette format of 10 cm x 10 cm x 0.7 cm fits perfectly into SERVA's innovative BlueVertical™ PRIME™ mini slab gel unit. However, the cassette gels are as well compatible with most commercially available slab gel tanks, e. g. the mini vertical systems Mighty Small II (SE 260) and miniVE (SE 300) from Hoefer.

- Premium resolution, superb band sharpness
- Easy and safe to operate, no leakage
- Short set-up times, gels are ready-to-use
- Unbreakable plastic cassette, recyclable
- Risk to health reduced to minimum (polymerized acrylamide, no toxic monomer)

SERVAGel™ Vertical Gels for 1D and 2D electrophoresis are available as

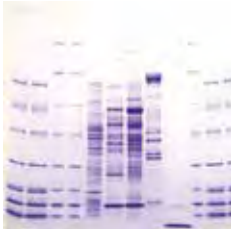
- **SERVAGel™ TG PRiME™** Tris/Glycine gel for standard and fast electrophoresis (approx. 35 min) according to Laemmli (Nature, 1970) with long shelf life.
- **SERVAGel™ Neutral pH 7.4** with long shelf life, suitable for different running buffers, e.g. Tris/Glycine or Tris/Tricine, and a separation range from 5 up to 200 kDa.
- **SERVAGel™ Neutral HSE** gel for high speed electrophoresis (20 min) with long shelf life.



SERVAGel™ TG PRiME™

Obtained from proprietary development, the precast gel SERVAGel™ TG PRiME™ features an extended shelf life and short electrophoresis times by using a standard Tris/Glycine buffer system. It can be operated under native and denaturing conditions.

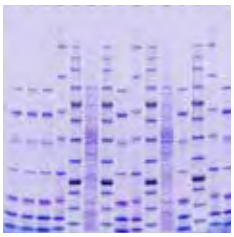
SERVAGel™	15 wells	12 wells	10 wells	2D well	Size
SERVAGel™ TG PRiME™ 8 %	43284.01	43260.01	43261.01	-	10 gels
SERVAGel™ TG PRiME™ 10 %	43285.01	43263.01	43264.01	-	10 gels
SERVAGel™ TG PRiME™ 12 %	43286.01	43266.01	43267.01	43268.01	10 gels
SERVAGel™ TG PRiME™ 14 %	43287.01	43269.01	43270.01	43271.01	10 gels
SERVAGel™ TG PRiME™ 4–12 %	43288.01	43273.01	43274.01	-	10 gels
SERVAGel™ TG PRiME™ 4–20 %	43289.01	43276.01	43277.01	-	10 gels
SERVAGel™ TG PRiME™ 8–16 %	43290.01	43279.01	43280.01	43281.01	10 gels



SERVAGel™ Neutral

The precast SERVAGel™ Neutral gel can be operated with various buffer systems such as Tris-Glycine, MOPS-Tris, Tris-Tricine. Obtained from proprietary development, the SERVAGel™ Neutral pH 7.4 features extended shelf life due to its neutral buffer system.

SERVAGel™	15 wells	12 wells	10 wells	Size
SERVAGel™ Neutral pH 7.4	43256.01	43220.01	43222.01	10 gels



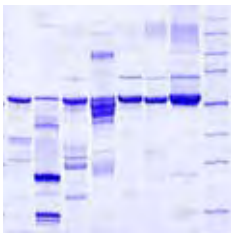
SERVAGel™ Neutral HSE

Optimized neutral gel with long shelf life for high speed electrophoresis (HSE). Running time is 20 minutes (30 min for second dimension in 2D applications). Especially suited for Western Blotting due to less restrictive acrylamide matrix.

SERVAGel™	15 wells	12 wells	10 wells	2D well	Size
SERVAGel™ Neutral HSE	43249.01	43245.01	43246.01	43247.01	10 gels

SERVA Gels for Horizontal SDS PAGE

SDS PAGE carried out in horizontal orientation using flatbed electrophoresis chambers is a valuable alternative to mostly common vertical PAGE.
The use of precast flatbed gels, as supplied with the SDS and SDS TA Gel Kits, results in lower buffer consumption, easy handling of the gels, most efficient temperature control and superb resolution. The neutral buffer system used for these gels allows a shelf life of 24 months. Samples are applied easily into precast slots. 25 slots (15 µl sample) or 52 slots (6 µl sample) are available. Film-backing can be easily removed for Western Blotting.



SDS Gel Kits

Kits for horizontal SDS polyacrylamide gel electrophoresis. Contain 4 film-backed precast SDS PAGE gels (size 250 mm x 125 mm x 0.45 mm) and a SDS PAGE buffer kit. For the run on horizontal flatbed systems like HPE™ BlueHorizon™ and Multiphor II™.

SERVA offers the SDS Gel 8-25 % Kit for use on the PhastSystem™. The kit contains 10 gels, 10 ml each of anode and cathode buffer and 20 electrode wicks.

Product	Slots	Size	Cat. no.
SDS Gel Kit 10 % 25S	25	1 kit	43359.01
SDS Gel Kit 10 % 52S	52	1 kit	43360.01
SDS Gel Kit 15 % 25S	25	1 kit	43361.01
SDS Gel Kit 15 % 52S	52	1 kit	43362.01
SDS Gel Kit NF 12.5 % 25S*	25	1 kit	43363.01
SDS Gel Kit NF 15 % 25S*	25	1 kit	43364.01
SDS Urine Gel Kit 25S	25	1 kit	43391.01
SERVA SDS Gel 8-25 % Kit for PhastSystem™	-	1 kit	43503.01

*NF = non-fluorescence support film

1D SDS Excellent Gel Kits

The ready-to-use precast horizontal 1D SDS 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. The 1D SDS Excellent Gel Kits are the ideal alternative for Excel™ SDS gels from GE Healthcare. Each kit contains 4 gels (size 260 mm x 125 mm x 0.43 mm) and a SDS PAGE buffer kit.

Product	Slots	Size	Cat. no.
Excellent Gel Kit 12.5% for 1D SDS PAGE	25	1 kit	43421.01
Excellent Gel Kit 7.5 % for 1D SDS PAGE	25	1 kit	43422.01
Excellent Gel Kit NF 12.5 % for 1D SDS PAGE	25	1 kit	43423.01
Excellent Gel Kit NF 7.5 % for 1D SDS PAGE	25	1 kit	43424.01
Excellent Gel Kit 15 % for 1D SDS PAGE	25	1 kit	43425.01
Excellent Gel Kit NF 15 % for 1D SDS PAGE	25	1 kit	43426.01

*NF = non-fluorescence support film

ExcelGel™: trademark owned by GE

Gel Media, Electrophoresis Buffers and Reagents

For the perfect gel – buy gel media, buffers and reagents directly from the manufacturer! For manufacturing of various polyacrylamide gels (e.g. SERVAGel™ TG PRiME precast vertical mini gels) SERVA has developed a profound knowledge base in making acrylamide and buffer solutions. Today, due to ongoing optimisation processes SERVA offers ready-to-use Acrylamide/Bis and buffer solutions of highest quality.

Acrylamide Solutions

SERVA's ready-to-use acrylamide/Bis solutions are suitable for all protein electrophoresis techniques – from standard SDS PAGE to high performance horizontal 2D electrophoresis. The solutions are made from highly purified acrylamide and N,N'-methylene bisacrylamide. Both acrylamide and N,N'-methylene bisacrylamide are available as powder as well.

Product	Size	Cat. no.
Acrylamide/Bis Solution, 29:1 (40 % w/v), 3.3 % C	500 ml	10680.01
	1 L	10680.03
	4x 500 ml	10680.02
Acrylamide/Bis Solution, 37.5:1 (40 % w/v), 2.6 % C	500 ml	10681.01
	1 L	10681.03
	4x 500 ml	10681.02
Acrylamide/Bis Solution, 29:1 (30 % w/v), 3.3 % C	500 ml	10687.01
	1 L	10687.03
	4x 500 ml	10687.02
Acrylamide/Bis Solution, 37.5:1 (30 % w/v), 2.6 % C	500 ml	10688.01
	1 L	10688.03
	4x 500 ml	10688.02
Acrylamide 4X Solution (40 % w/v)	1 L	10677.01
N,N'-Methylene bisacrylamide 2X Solution, 2 % (w/v)	1 L	29197.01
Acrylamide 2X, research grade	1 kg	10675.02
Acrylamide 4X, analytical grade	1 kg	10674.03
Ammoniumpersulfate (APS), electrophoresis grade	50 g	13376.01
	250 g	13376.02
N, N, N', N'- Tetramethyl-ethylenediamine (TEMED), for electrophoresis	10 ml	35930.01
	25 ml	35930.02

Electrophoresis Buffers

To obtain optimal protein separation in vertical SDS PAGE it is crucial to use the appropriate buffer system. The standard Tris/Glycine (Laemmli) buffer system is suitable for the MW range 7 – 200 kDa. The Tris/Tricine buffer system allows higher resolution down to 3 kDa.

Product	Size	Cat. no.
Laemmli Buffer (10x), for SDS PAGE	2 L	42556.01
	10 L	42556.04
Laemmli Sample Buffer (2x), for SDS PAGE	20 ml	42526.01
	5x 20 ml	42526.02
SERVA Tris-Glycine/SDS Sample Buffer (2x)	20 ml	42527.01
SERVA Tris-Glycine/LDS Sample Buffer (4x)	10 ml	42525.01
SERVA Tris-Glycine/SDS Electrophoresis Buffer (10x)	1 L	42529.01
SERVA Tris-Tricine/SDS Sample Buffer (2x)	20 ml	42551.01
SERVA Tris-Tricine/SDS Electrophoresis Buffer (10x)	1 L	42552.01
SERVA Tris-Tricine/SDS Electrophoresis Buffer (20x)	1 L	42560.01
SDS Solution, 20 %, electrophoresis grade	500 ml	20768.02
	1 L	20768.03

Reagents

Product	Size	Cat. No.
Dithiothreitol, electrophoresis grade	5 g	20711.02
Dodecylsulfate-Na-salt, electrophoresis grade	100 g	20771.01
	500 g	20771.02
Glycine, electrophoresis grade	500 g	23391.01
	1 kg	23391.02
	5 kg	23391.03
2-Mercaptoethanol, electrophoresis grade	50 ml	28626.01
Tris(hydroxymethyl)aminomethane (TRIS), electrophoresis grade	500 g	37181.01
	1 kg	37181.02
	2.5 kg	37181.03
Tris(hydroxymethyl)methylglycine (Tricine), electrophoresis grade	100 g	37196.01
	500 g	37196.02

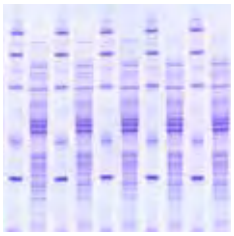
SERVA Protein Stains for SDS PAGE

SERVA offers both, colorimetric and fluorescence stains to detect proteins after separation by SDS PAGE. For standard applications colorimetric staining is the method of choice. The fluorescence dye Lightning Red allows pre-labelling of proteins prior to electrophoresis to detect separated proteins directly after electrophoresis without additional staining or washing steps.

Fluorescence stains for SDS PAGE

SERVA developed a range of easy-to-use, highly sensitive, fluorescence-dye based kits. The SERVA PRiME™ Lightning Red Kit is a rapid label of proteins prior to SDS PAGE, making any staining and washing steps unnecessary after electrophoresis.

Product	Size	Cat. no.
SERVA PRiME™ Lightning Red	1 kit	43402.01
SERVA ProteinStain Fluo-R, powder	1 ml	35090.01
SERVA Purple	5 ml	43386.03
	25 ml	43386.01



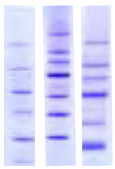
Colorimetric stains for SDS PAGE

To detect electrophoretically separated proteins, colorimetric staining methods are common. Coomassie® and silver are mainly used. The best method for a specific application strongly depends on the detection limit, the compatibility with downstream applications and detection instruments.

Product	Size	Cat. no.
Quick Coomassie® Stain	1 L	35081.01
SERVA *Densi*Stain Blue G Staining Solution	500 ml	35078.01
SERVA Silver Staining Kit SDS PAGE	1 kit	35076.01
Coomassie® Brilliant Blue G 250	25 g	17524.01
	100 g	17524.02
Coomassie® Brilliant Blue R 250	25 g	17525.01
	100 g	17525.02
SERVA Blue G	5 g	35050.01
	25 g	35050.02
	100 g	35050.03
SERVA Blue R	5 g	35051.01
	25 g	35051.02
	100 g	35051.03
SERVA Blue W	25 g	35053.02
	100 g	35053.03
Silver nitrate	25 g	35110.01
	100 g	35110.02

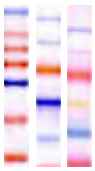
SERVA Protein Standards for SDS PAGE

To determine the molecular weight of proteins separated in polyacrylamide gels in the presence of SDS (SDS PAGE) SERVA offers various protein markers of natural and recombinant origin. The molecular weight of the markers ranges from 5 kDa up to 245 kDa. The markers are available as ready-to-use solutions or as lyophilized protein mixtures to be dissolved in water or sample buffer.
To check the separation process during the electrophoresis run or after blotting the proteins onto a membrane you may use one of the prestained protein markers. These marker proteins are stained covalently. Due to the staining the molecular weight differs from the unstained protein and is, therefore, not suitable for molecular weight determination without internal calibration.



Unstained protein standards

- To determine the molecular weight of proteins
- Natural and recombinant origin
- Ready-to-use or lyophilized



Prestained protein standards

- For monitoring protein separation
- Verification of Western blot transfer efficiency
- Ready-to-use

Product	Size	Cat. no.
Protein Test Mixture 6 for SDS PAGE	10 mg	39207.01
Protein Test Mixture 4 for SDS PAGE	10 mg	39208.01
Protein Test Mixture 5 for SDS PAGE	10 mg	39209.01
SERVA Unstained SDS PAGE Protein Marker 6.5 - 97 kDa, liquid mix	500 µl	39214.01
SERVA Unstained Protein Standard IV	500 µl	39250.01
SERVA Triple Color Standard I	500 µl	39251.01
SERVA Triple Color Protein Standard II	500 µl	39257.01
SERVA Triple Color Protein Standard III	500 µl	39258.01
SERVA Fluo-610 Standard I	5x 50 µl	39261.01

2D Electrophoresis

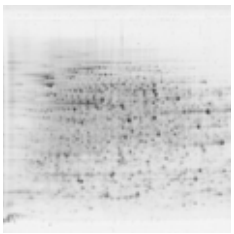
SERVA Gels for Horizontal 2D Electrophoresis

The SERVA HPE™ system comprises the SERVA HPE™ BlueHorizon™ and HPE™ 2D Gel Kits. The SERVA HPE™ BlueHorizon™ is a flatbed electrophoresis system providing second to none resolution, reproducibility and sensitivity – the first true "High Performance Electrophoresis" system. Up to four HPE™ gels can be operated simultaneously to conduct either 1- or 2-dimensional separations.

HPE™ Gels at a Glance

- Industrial production precision of the gels guarantees highly reliable gels and reproducible results
- Specially designed gel buffer system allows shelf life of 24 months
- Detection of wide molecular weight range, from 300 down to 6.5 kDa
- Buffers and gels are ready-to-use
- Non-fluorescent backing film for all fluorescent labelling and staining procedures
- High efficient sample transfer from 1st to 2nd dimension due to application of the IPG strips into a precast trench of the gel
- Available in three formats:

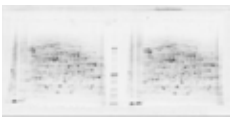
  2D HPE™ Large Gel Kits – 255 mm x 200 mm x 0.65 mm
  2D HPE™ Double Gel Kits– 255 mm x 110 mm 0.65 mm
  2D HPE™ Triple Gel Kits– 255 mm x 110 mm 0.65 mm



2D HPE™ Large Gel Kits

2D HPE™ large gels are suitable for running 1 x 24 cm IPG strip (e.g. SERVA IPG *Blue*Strip) plus one marker lane by horizontal electrophoresis on HPE™ BlueHorizon™ or Multiphor II™. 2D HPE™ large gels are available on standard backing or on non-fluorescence (NF) backing for fluorescence staining and labelling. All kits include 4 gels, running and equilibration buffers, wicks and cooling contact fluid.

Product	Size	Cat. no.
2D HPE™ Large Gel NF 12.5% Kit	1 kit	43304.01
2D HPE™ Large Gel NF 10 - 15% Kit	1 kit	43305.01
2D HPE™ Large Gel 12.5% Kit	1 kit	43310.01
2D HPE™ Large Gel 10 - 15% Kit	1 kit	43311.01

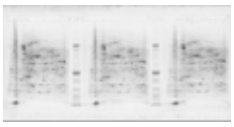


2D HPE™ Double Gel Kits

2D HPE™ double gels are suitable for running 2 x 11 cm IPG strips (e.g. SERVA IPG *Blue*Strip) plus one marker lane by horizontal electrophoresis on HPE™ BlueHorizon™ or Multiphor II™. 2D HPE™ double gels are available on standard or on non-fluorescence (NF) backing for fluorescence staining and labelling. All kits include 4 gels running and equilibration buffers, wicks and cooling contact fluid.

Product	Size	Cat. no.
2D HPE™ Double Gel NF 12.5% Kit	1 kit	43302.01
2D HPE™ Double Gel NF 10 - 15% Kit	1 kit	43303.01
2D HPE™ Double Gel 12.5% Kit	1 kit	43308.01
2D HPE™ Double Gel 10 - 15% Kit	1 kit	43309.01

2D HPE™ Triple Gel Kits



2D HPE™ triple gels are suitable for running 3 x 7 cm IPG strips (e.g. SERVA IPG *Blue*Strip) plus one marker lane by horizontal electrophoresis on HPE BlueHorizon™ or Multiphor II™. HPE™ 2D triple gels are available on standard or on non-fluorescence (NF) backing for fluorescence staining and labelling. All kits include 4 gels, running and equilibration buffers, wicks and cooling contact fluid.

Product	Size	Cat. no.
2D HPE™ Triple Gel NF 12.5% Kit	1 kit	43300.01
2D HPE™ Triple Gel NF 10 - 15% Kit	1 kit	43301.01
2D HPE™ Triple Gel 12.5% Kit	1 kit	43306.01
2D HPE™ Triple Gel 10 - 15% Kit	1 kit	43307.01

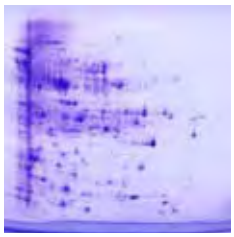
2D HPE™ BlotGels

The newly developed 2D HPE™ Double BlotGel combines high-resolution 2D gel electrophoresis with the Western blotting detection method. The gel is not covalently bound to the (non-fluorescent) carrier foil as usual. After electrophoresis, the carrier foil, which interferes with the downstream process, can be removed from the gel easily and allows direct and efficient transfer of separated proteins by semi-dry blotting.

Product	Size	Cat. no.
2D HPE™ Triple BlotGel NF 12.5 % Kit	1 kit	43429.01
2D HPE™ Double BlotGel NF 12.5 % Kit	1 kit	43430.01
2D HPE™ Large BlotGel NF 12.5 % Kit	1 kit	43432.01

NF=non-fluorescent film backing

SERVA*Gel*™ for Vertical 2D Electrophoresis (mini vertical format)



SERVA*Gel*™ 2D

Obtained from proprietary development, the precast SERVA*Gel*™ 2D gel 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 SERVA IPG *Blue*Strips of 7 cm length can be used. The separation distance is 7 cm.

Product	Size	Cat. no.
SERVA*Gel*™ TG PRiME 12 %, 2D well	10 gels	43268.01
SERVA*Gel*™ TG PRiME 14 %, 2D well	10 gels	43271.01
SERVA*Gel*™ TG PRiME 8 - 16 %, 2D well	10 gels	43281.01
SERVA*Gel*™ Neutral HSE, 2D well	10 gels	43247.01

SERVA IPG *Blue*Strips

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.

SERVA IPG *Blue*Strips

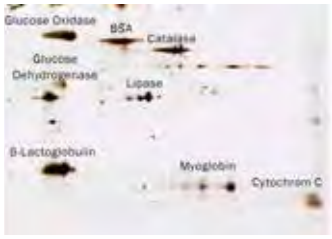
Product	7 cm	11 cm	17 cm	18 cm	24 cm
SERVA IPG *Blue*Strip 3 - 10	43001.01	43031.01	43041.01	43011.01	43021.01
SERVA IPG *Blue*Strip 3 – 10 NL	43002.01	43032.01	43042.01	43012.01	43022.01
SERVA IPG *Blue*Strip 4 – 7	43003.01	43033.01	43043.01	43013.01	43023.01
SERVA IPG *Blue*Strip 5 – 8	43006.01	43036.01	43046.01	43016.01	43026.01

As reagents for best protein separation on SERVA IPG *Blue*Strips buffer and overlay liquid is available.

Product	Size	Cat. no.
SERVA HPE™ IPG Strip Buffer	1 ml	43368.01
SERVA HPE™ IPG Overlay	1 L	43397.01
IPG Chamber Cleaner	1 L	43399.01

SERVA Proteome Markers for 2D Electrophoresis

SERVA offers the unique set of Proteome Markers containing 8 proteins qualified for 2D gel electrophoresis and application in liquid chromatography/ mass spectrometry. Proteins ranging from 11.7 to 77 kDa and spanning the entire pI range are supplied in equimolar amounts. The Proteome Markers are characterized carefully by 2D electrophoresis and also by LC/MS: identity of each protein is verified by protein sequence analysis.
The SERVA Proteome Markers provide a unique and useful tool to calibrate 2D gels, to serve as internal LC/MS standard or to be added to protein samples.
SERVA Proteome Markers are developed in collaboration with the German Society of Proteome Research (DGPF).



SERVA Proteome Markers

Product	Size	Cat. no.
SERVA Proteome Markers	1 kit	39220.01

Please note: Protein standards for 1D marker lane are listed at page 17 (SDS PAGE Protein Standards unstained).

SERVA Stains for 2D Gels

To detect separated proteins as spots in the gel proteins have to been stained, either before or after electrophoresis. There are versatile staining methods available. You may pre-label the proteins before loading on the IPG strip or you may process the 2D gel after electrophoresis. Here is a selection of different stains available from SERVA for 2D gel staining.

Fluorescence staining

SERVA HPE™ Lightning Red
Rapid 1-step labelling of proteins prior to 1D or 2D PAGE, no need for staining or washing steps, MS and Western Blot compatible.

SERVA Purple
Highly sensitive, easy, non-toxic fluorescence staining for proteomic applications, MS and Western Blot compatible.

SERVA Lightning SciDye Set
Developed for minimal labelling of proteins for detection in 2D Fluorescence Difference Gel Electrophoresis (DIGE). Single SciDyes (2, 3 and 5) are available as well.

Colorimetric staining

SERVA HPE™ Coomassie® Staining Kit
A highly sensitive staining for proteomics, sensitivity comparable to silver staining, MS compatible.

SERVA HPE™ Silver Staining Kit
Highly sensitive silver staining for proteomic applications, MS compatible.

▶ Fluorescence Stains for 2D Gels

Product	Size	Cat. no.
SERVA HPE™ Lightning Red	1 kit	43400.01
SERVA Purple	5 ml	43386.03
	25 ml	43386.01
	4x 25 ml	43386.02
SERVA Lightning SciDye Set	5 nmol	43407.01
	10 nmol	43407.02
	25 nmol	43407.03
SERVA Lightning Sci2	5 nmol	43404.01
	10 nmol	43404.02
	25 nmol	43404.03
SERVA Lightning Sci3	5 nmol	43405.01
	10 nmol	43405.02
	25 nmol	43405.03
SERVA Lightning Sci5	5 nmol	43406.01
	10 nmol	43406.02
	25 nmol	43406.03

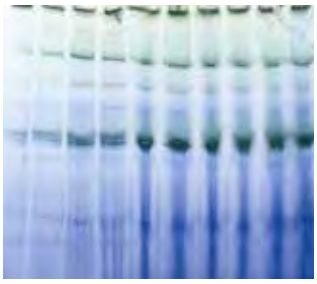
▶ Colorimetric Stains for 2D Gels

Product	Size	Cat. no.
SERVA HPE™ Coomassie® Staining Kit	1 kit	43396.01
SERVA HPE™ Silver Staining Kit	1 kit	43395.01

Native Electrophoresis

SERVA Native PAGE Gels

Blue and Clear Native electrophoresis in polyacrylamide gels (BN/CN PAGE) separates proteins according to their native state, i.e. by their intrinsic charge and size.



Blue Native PAGE (BN PAGE) makes use of Coomassie® Brilliant Blue G 250 to bind to the outer surface of protein complexes leading to a negatively charged protein-dye complex. The Blue G dye does not act as a detergent thus maintaining the native structure of the protein throughout the electrophoresis process. At physiological pH, the protein-dye complexes migrate pI-independently towards the anode. The repulsion between the negatively charged protein-dye complexes leads to high resolution and band sharpness.

Clear Native PAGE (CN PAGE) works without using any anionic dye. Therefore, migration of proteins through the gel is as well dependent from the intrinsic charge of the protein. This method can be used for separation of proteins with pI <7 at physiological pH when dyes may interfere with further analytical methods.

SERVA*Gel*™ N

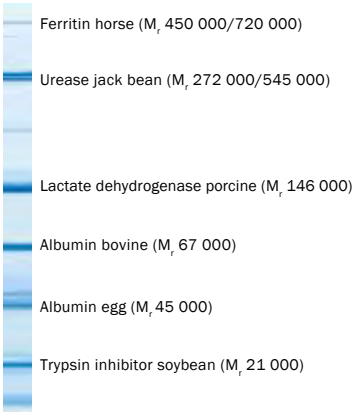
Product	15 wells	12 wells	10 wells
SERVA*Gel*™ N 3 - 12 %	43254.01	43250.01	43251.01
SERVA*Gel*™ N 4 - 16 %	43255.01	43253.01	43252.01
SERVA*Gel*™ N Native Starter Kit	-	-	43204.01

Please note: For native PAGE in a Tris/Glycine buffer system SERVA offers the SERVA*Gel*™ PRiME™ gels that can be operated under native conditions showing highest resolution with long shelf life. For ordering information please refer to page 13.

SERVA Protein Standards for Native PAGE

To determine the molecular weight of proteins separated in polyacrylamide gels in their native state SERVA offers the Protein Molecular Weight Standards, 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 12.4 kDa up to 450 kDa : 25 mg each of Ferritin horse [M_r 450 000]; Catalase bovine [M_r 240 000]; Aldolase rabbit [M_r 160 000]; Albumin bovine [M_r 67 000]; Chymotrypsinogen A [M_r 25 000]; Myoglobin equine [M_r 17 800]; Cytochrome C [M_r 12 400].

The SERVA Native Marker Liquid Mix for BN/CN PAGE is ready-to-use and contains 6 native proteins ranging from 21 kDa to 720 kDa (see marker lane).



SERVA Protein Standards

Product	Size	Cat. no.
Protein Molecular Weight Standards	1 kit	39064.01
SERVA Native Marker Liquid Mix for BN/CN PAGE	5x 50 µl	39219.01

SERVA Native PAGE Buffers

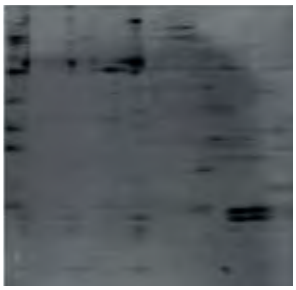
SERVA offers a complete range of buffers for native PAGE.

Buffers for Native PAGE

Product	Size	Cat. no.
Native Anode Buffer for Blue/Clear Native (10x)	1 L	42535.01
Native Cathode Buffer for Blue/Clear Native (10x)	500 ml	42536.01
Sample Buffer for Blue Native (2x)	20 ml	42533.01
Sample Buffer for Clear Native (2x)	20 ml	42534.01
SERVA Blue G solution for BN, 1 %	20 ml	42538.01
SERVA Tris-Glycine Native Electrophoresis Buffer (10x)	1 L	42530.01
SERVA Tris-Glycine Native Sample Buffer (2x)	20 ml	42528.01

SERVA Stains for Native PAGE

Native PAGE gels are stained with Commassie® and silver stains. To receive best results for Blue Native PAGE gels change the cathode buffer containing Coomassie® Blue G after half of the run time against cathode buffer without dye.

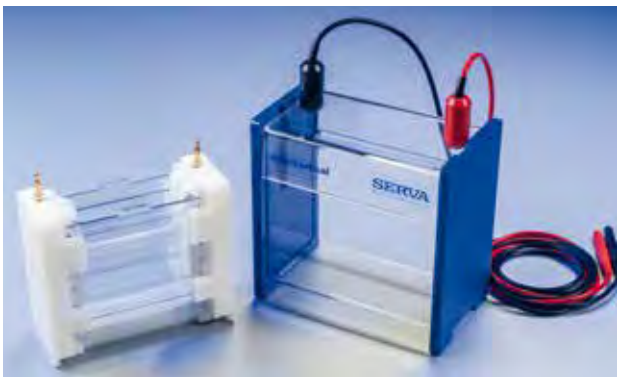


Stains for Native PAGE

Product	Size	Cat. no.
Quick Coomassie® Stain	1 L	35081.01
SERVA *Densi*Stain BlueG Staining Solution (2x)	500 ml	35078.01
SERVA Silver Staining Kit for Native PAGE	1 kit	35077.01
SERVA*Snow* Staining Kit	1 kit	35080.01

BlueVertical™ PRiME™

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 cm x 10 cm x 0.7 cm. A casting stand and accessories for self-casting of mini vertical polyacrylamide gels are available. Separation of proteins by SDS PAGE, native PAGE and IEF can be carried out as well as separation of nucleic acids.



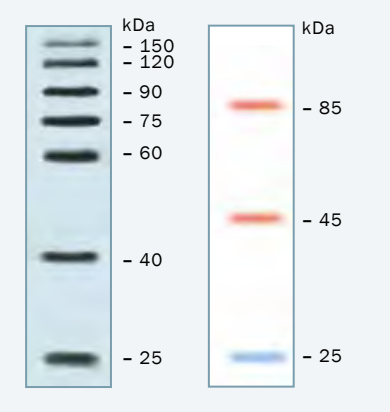
- Superb results
- Top resolution
- Easy and safe to handle
- Unique, leak-free clamp system
- Smart design – made in Germany
- For SERVA*Gel*™ precast gels

For more information please go to page 36.

Western Blotting

Protein Standards for Western Blotting

SERVA offers the VisiBlot Standard I as a control for blotting efficiency as well as protein size standard. It 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 seven 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

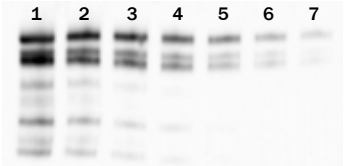
Standard

Product	Size	Cat. no.
SERVA VisiBlot Standard I	500 µl	39260.01

Please note: Prestained protein standards for visualization of 1D SDS PAGE progress and blotting efficiency are listed at page 17.

Reagents and Kits for Protein Transfer in Western Blotting

A fast and easy to use alternative for optimal semi-dry blotting is SERVA's Xpress Blotting Kit. The buffer system enables in combination with the newly developed alternative for blotting paper, the Blotting Fleece, an efficient simultaneous transfer of high and low molecular weight proteins in only 15 minutes. This advanced technology is available as transfer buffer (contains buffer only), as transfer buffer kit (contains buffer, blotting fleece sheets 80 mm x 85 mm), as NC and PVDF blotting kit (contains buffer, blotting fleece sheets and nitrocellulose or PVDF membrane sheets, all 80 mm x 85 mm).
For small proteins or for tank blotting after SDS PAGE Towbin Buffer is recommended, for blotting proteins after SDS PAGE or IEF by semi-dry blotting, a discontinuous buffer system is recommended.

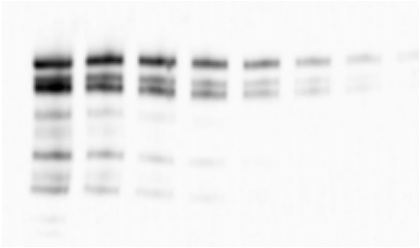


Blotting Buffers and Kits

Product	Size	Cat. no.
Xpress Blotting Buffer (10x)	1 L	42661.01
Xpress Blotting Kit	1 kit	42662.01
Xpress NC Blotting Kit	1 kit	42663.01
Xpress PVDF Blotting Kit	1 kit	42664.01
Towbin Buffer for Western Blotting, 10x concentrated	1 L	42558.02
Semi-Dry Blotting Buffer Kit	3x 500 ml	42559.01

Transfer Membranes for Western Blotting

For blotting of proteins SERVA offers besides standard nitrocellulose membranes as well for protein transfer recommended PVDF. Membranes made from microporous polyvinylidene fluoride (PVDF) show an excellent mechanical stability and are highly flexible and tear-resistant. They posses a high binding capacity especially for proteins and feature a very low background. The membranes are compatible with most staining methods and ideal for immuno detection. Fluorobind membranes are non-fluorescent and therefore optimized for fluorescence detection.



Transfer Membranes

Product	Pore size	Format	Size	Cat. no.
NC 2 Nitrocellulose Membrane	0.22 µm	30 cm x 3 m	1 roll	71224.01
NC 2 Nitrocellulose Membrane	0.22 µm	20 cm x 20 cm	5 sheets	71223.01
NC 2 Nitrocellulose Membrane	0.22 µm	80 mm x 85 mm	10 sheets	71222.01
NC 45 Nitrocellulose Membrane	0.45 µm	30 cm x 3 m	1 roll	71208.01
NC 45 Nitrocellulose Membrane	0.45 µm	88 mm x 88 mm	10 sheets	42516.01
Fluorobind Membrane, surface PVDF	0.22 µm	26.5 cm x 3 m	1 roll	42571.01
Immobilon™-P-Membrane	0.45 µm	26.5 cm x 3.75 m	1 roll	42581.01
PVDF 0.2 Transfer Membrane	0.22 µm	30 cm x 3 m	1 roll	42515.01
PVDF 0.45 Transfer Membrane	0.45 µm	30 cm x 3 m	1 roll	42514.01

Blocking and Stripping Reagents for Western Blotting

Before membrane bound antigens can be detected, unspecific binding sites for antibodies on the transfer membrane have to be blocked to achieve a good signal-to-noise ratio. For many applications skim milk powder is an economic alternative to bovine serum albumin (BSA). For Western Blots where skim milk cannot be used, SERVA offers highly purified BSA like Albumin bovine Fraction V, pH 7.0.
It is well known that protein based blocking solutions like skim milk powder or BSA solutions may not only block unspecific binding sites, but mask as well specific binding sites. With BlueBlock PF, the specific binding sites remain accessible while non-specific reactions are suppressed, thus leading to an increase in signal intensity. It is suitable for colorimetric and chemiluminescence detection systems.

BlueClear SB is a ready-to-use buffer for efficient stripping of high-affinity antibodies from Western blot membranes after chemiluminescence detection. It is 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.

Blocking and Stripping Reagents

Product	Size	Cat. no.
BlueBlock PF (10x), for blotting and ELISA	250 ml	42591.01
	1 L	42591.02
Albumin Bovine Fraction V, pH 7.0 (BSA), standard grade, lyophil.	10 g	11930.01
	25 g	11930.02
	100 g	11930.03
	500 g	11930.04
Skim Milk Powder, for blotting	500 g	42590.01
	1 kg	42590.02
	5 kg	42590.03
Blue Clear SB, for antibody stripping	250 ml	42599.01
	1 L	42599.02

Detection Reagents for Western Blotting

SERVA*Light* HRP chemiluminescence substrates are a family of highly sensitive reagents for detection of membrane bound antigens (Western blot), labelled directly with horseradish peroxidase (HRP) or indirectly with HRP-conjugated antibodies/streptavidin. They are easy to use, have an excellent stability of at least one year, and save money and precious antibodies due to high dilution of antibodies at a working concentration of 0.1 ml/cm² during the detection process. Most important, the signal duration is significantly extended compared to tother comercially available systems.

SERVA*Light* CL HRP substrates are available in two formats:

- PreMixed as One-Tube-Solution – ready to use with no need to mix two components with excellent signal duration between 2 and 4 h (see table below)
- Two-component system – up to sixfold extended signal duration form 8 h up to 24 h, working solution stable for at least three days

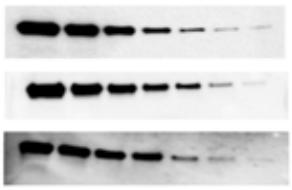
SERVA*Light* CL HRP substrates are available in five detection ranges – fine tune your signal intensity adapted to your experimental needs!

- Vega for mid-picogram protein quantities/high abundance
- Polaris for low picogram protein quantities/high abundance
- Eos for mid-femtogramm protein quantities/medium abundance
- Eos Ultra for Mid to low femtogram protein quantities/low abundance
- Helios for below femtogram protein quantities/very low abundance

SERVA*Light*	Signal intensity	Signal duration	Primary Ab dilution	Secondary Ab dilution
PreMix Vega	Standard	3 h	1:100 – 1:5000	1:1000 – 1:20,000
Vega	Standard	Long	1:100 – 1:5000	1:1000 – 1:15,000
Polaris	Medium	8 h	1:1000 – 1:5000	1:20,000 – 1:100,000
PreMix Eos	High	4 h	1:1000 – 1:15,000	1:25,000 – 1:150,000
Eos	High	>24 h	1:1000 – 1:15,000	1:25,000 – 1:150,000
Eos Ultra	Very high	>24 h	1:5000 – 1:50,000	1.50,000 – 1:250,000
PreMix Helios	Extreme	2 h	1:5000 – 1:100,000	1:100,000 – 1:500,000
Helios	Extreme	11 h	1:5000 – 1:100,000	1:100,000 – 1:500,000

SERVA*Light* CL HRP Substrates:

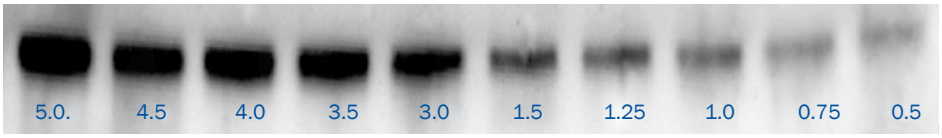
- Optimized for attaining low background and high signal to noise ratio
- Extended signal duration
- Excellent stability – at least one year stable when stored at room temperature
- Economical - save money and precious antibodies due to high dilution of antibodies



SERVALight	Primary Ab	Secondary Ab
SERVA*Light* PreMix Vega	1:2000	1:20,000
SERVA*Light* PreMix Eos	1:5000	1:75,000
SERVA*Light* PreMix Helios	1:10,000	1:100,000

SERVA*Light* Kits

Product	Size	Cat. no.
SERVA*Light* Vega CL HRP WB Substrate Kit	250 ml	42588.02
	500 ml	42588.03
SERVA*Light* Polaris CL HRP WB Substrate Kit	100 ml	42584.01
	250 ml	42584.02
	500 ml	42584.03
SERVA*Light* Eos CL HRP WB Substrate Kit	50 ml	42585.01
	250 ml	42585.02
SERVA*Light* EosUltra CL HRP WB Substrate Kit	20 ml	42586.01
	100 ml	42586.02
SERVA*Light* Helios CL HRP WB Substrate Kit	20 ml	42587.01
	100 ml	42587.02
	200 ml	42587.03
SERVA*Light* PreMix Vega CL HRP WB Substrate	250 ml	42655.01
SERVA*Light* PreMix Eos CL HRP WB Substrate	250 ml	42656.01
SERVA*Light* PreMix Helios CL HRP WB Substrate	250 ml	42657.01



Human transferrin was diluted (5 to 0.5 ng) and electrophoresis was performed. The gel was transferred to PVDF membranes, blocked and incubated with 1:20,000 rabbit anti-transferrin. After washing, the membranes were incubated with 1:100,000 of HRP-conjugated goat anti-rabbit antibody. The membrane was washed again and then incubated with SERVA*Light* EosUltra. Exposure time was 300 sec.

The SERVAColor blot solutions are ready-to-use and non-toxic. Outstanding features are rapid precipitate formation due to high activity, a very low background, long term stability at room temperature as well as no significant fading after reaction stop.

SERVAColor BCIP/NBT Blot Solution

- Highly sensitive substrate solution for detection of alkaline phosphatase (AP)

SERVAColor TMB Blot Solution

- Highly sensitive substrate solution for detection of horseradish peroxidase (HRP)

Beside SERVA*Light* and SERVAColor kits SERVA offers stand alone detection reagents like Luminol, TMB, BCIP and NBT

Reagents

Product	Size	Cat. no.
SERVAColor BCIP/NBT Blot Solution	250 ml	15245.01
SERVAColor TMB Blot Solution	250 ml	37071.02
3,3',5,5'-Tetramethylbenzidine (TMB)	5 g	35926.02
	25 g	35926.03
Luminol	5 g	28085.01
5-Bromo-4-chloro-3-indolyl-phosphate • p-toluidine salt (BCIP)	100 mg	15247.02
	500 mg	15247.03
Nitro Blue Tetrazolium Chloride (NBT)	250 mg	30550.01
	1 g	30550.02
	5 g	30550.03
Ponceau S	5 g	33429.01
	25 g	33429.02
Ponceau S Solution for Electrophoresis	500 ml	33427.01

Nucleic Acid Electrophoresis

Agarose Gel Media

Agarose is a highly purified naturally occurring polysaccharide. Preparation of agarose gels involves simply dissolving agarose tablets or the powdered agarose in buffer by heating. The agarose gels upon cooling. Like acrylamide, the pore size of an agarose gel is inversely dependent on the agarose concentration. The pores in agarose gels are generally much larger than those in acrylamide gels and are widely used in separation of nucleic acids. Low molecular weight nucleic acids and oligonucleotides, however, are usually separated by PAGE, due to smaller pore size of the gel matrix.

Many types of different agarose qualities optimized for specific applications are available, e.g.:

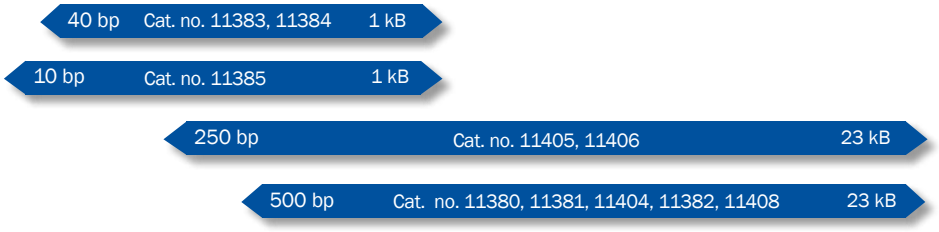
- Agarose SERVA Wide Range (cat no. 11406) or Agarose for DNA Electrophoresis (cat. no. 11404) for standard DNA electrophoresis.
- Agarose SERVA FastSolve Tablets (cat. no. 11407) – fast dissolved, wide separation ranges from 100 bp - ≥30 kb, packed in a convenient blister pack preventing clumping.
- Agarose SERVA 3:1 (cat. no. 11385) and Agarose for PCR (cat. no. 11383) for high resolution separation of small (10 bp - 1000 bp) DNA, RNA and PCR fragments.
- Agaroses with low melting temperature like Agarose SERVA Low Melting (cat. no. 11408) for easy recovery of DNA fragments from agarose.

Agarose Gel Media

Product	Size	Cat. no.
Agarose SERVA	100 g	11380.02
	250 g	11380.03
	500 g	11380.05
Agarose SERVA Low Melting	5 g	11408.01
	25 g	11408.02
Agarose SERVA for DNA Electrophoresis	100 g	11404.03
	250 g	11404.04
	500 g	11404.07
	1 kg	11404.05
Agarose SERVA Wide Range	250 g	11406.01
	500 g	11406.02
	1 kg	11406.03
Agarose SERVA Premium	100 g	11381.02
	250 g	11381.03
Agarose SERVA Premium Low Melting	25 g	11382.01
	100 g	11382.02
Agarose SERVA 3:1	25 g	11385.01
	100 g	11385.02
Agarose SERVA for PCR	100 g	11383.02
Agarose SERVA for PCR Low Melting	25 g	11384.01
	100 g	11384.02
Agarose SERVA Tablets, 0.5 g/tablet	100 g	11405.01

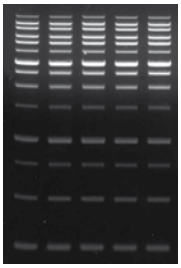
Agarose	Cat. no.	Broad separation range	High resolution <1000 bp	In-Gel applications	Gene technology grade	Blotting
Agarose SERVA	11380	✓				✓
Agarose SERVA Low Melting	11408			✓		
Agarose SERVA for DNA Electrophoresis	11404	✓				✓
Agarose SERVA Wide Range	11406	✓				✓
Agarose SERVA Premium	11381				✓	✓
Agarose SERVA Premium Low Melting	11382			✓	✓	
Agarose SERVA 3:1	11385		✓			✓
Agarose SERVA for PCR	11383		✓		✓	✓
Agarose SERVA for PCR Low Melting	11384		✓	✓	✓	
Agarose SERVA Tablets	11405				✓	✓

Separation ranges of SERVA agaroses:



SERVA Stains for Nucleic Acids

Besides the classical stain for agarose gels ethidium bromide, SERVA offers safe, non-carcinogenic alternatives: SERVA HiSens Stain G, SERVA DNA Stain Clear G and SERVA DNA Stain G. They are at least as sensitive as ethidium bromide and can be used in exactly the same way in agarose gel electrophoresis. The dyes emit a green fluorescence when bound to DNA or RNA. The fluorescence emission is similar to EtBr at ca. 530 nm when bound to nucleic acid. Pre- and post-staining is possible. The post-staining solution is re-usable 2 – 3 times.



- **SERVA HiSens Stain G** – 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.
- **SERVA DNA Stain Clear G** gives a very low background and has therefore a higher sensitivity as SERVA DNA Stain G. It has two secondary fluorescence excitation peaks (ca. 270 nm and 295 nm) and one strong excitation peak centered around 490 nm. Working dilution is 1:17,000 to 1:25,000.

Stains for Nucleic Acids

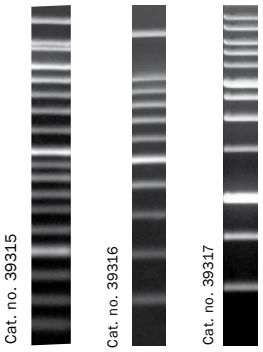
Product	Size	Cat. no.
SERVA HiSens Stain G	500 µl	39805.01
SERVA DNA Stain Clear G	1 ml	39804.01
	5x 1 ml	39804.02
SERVA DNA Stain G	1 ml	39803.01
	5x 1 ml	39803.02
Ethidium bromide aqueous solution, 1 % w/v	25 ml	21251.01

SERVA DNA Standards

For size determination of DNA fragments in agarose gels you need size markers of high quality under the respect of fragment size and purity. SERVA offers two types of DNA MW size markers. SERVA FastLoad DNA Ladders are ready-to-use DNA ladders with fragment ranges from 50 – 1500 bp, 100 – 3000 bp and 250 bp – 25 Kbp. SERVA DNA standards lyophilized consist of a range of lyophilized DNA molecular weight standards covering traditional MW standards made by digestion of pUC19 or phage λ DNA as well as 100 bp and 1 Kbp ladders for PCR fragment analysis.

A. SERVA FastLoad DNA Ladder

- Ready-to-use, supplied in loading buffer.
- DNA ladders from 50 – 1500 bp, 100 – 3000 bp and 250 bp – 25 kb.
- For estimation of DNA mass of bands of similar size with comparable intensity, the approximate mass of each band is indicated.
- Stable for 6 months at 25 °C and for 12 months at 4 °C. For long term storage store at -20 °C.

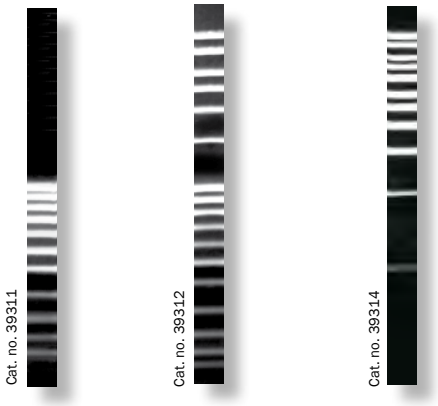


SERVA FastLoad DNA Ladder

Description	DNA fragments	Fragment range	Load per lane	Size	Cat. no.
SERVA FastLoad 50 bp DNA Ladder	17	50 bp - 1500 bp 200 bp and 500 bp with increased intensity	5 µl (0.56 µg)	500 µl	39315.01
SERVA FastLoad 100 bp DNA Ladder	12	100 bp - 3000 bp 500 bp and 1500 bp with increased intensity	5 µl (0.54 µg)	500 µl	39316.01
SERVA FastLoad 1 kb DNA Ladder	14	250 bp – 25 kb, 1000 bp and 3000 bp with increased intensity	5 µl (0.52 µg)	500 µl	39317.01

B. SERVA DNA Standard Lyophilized

- 100 bp and 1 kb ladders for PCR fragment analysis, check of small to large DNA fragments after digestion of genomic or plasmid DNA by restriction enzyme, and more.
- High-quality fragment ends, lyophilized - can be resuspended in buffer of choice for labelling experiments, e.g. fill-in, 5'-end label.
- Stable for at least 3 years (if stored at -20 °C), 1 ml sample buffer is included for easy and fast resuspension of the DNA fragments.



SERVA DNA Standards Lyophilized

Description	DNA fragments	Load per lane	Size	Cat. no.
SERVA DNA Standard 100 bp Ladder, Equimolar, lyophilized	11	0.7 – 1.0 µg	50 µg	39311.01
SERVA DNA Standard 100 bp Ladder, Extended, lyophilized	17	0.8 – 1.0 µg	50 µg	39312.01
SERVA DNA Standard 1 Kbp Ladder, lyophilized	11	0.5 – 0.7 µg	4x 50 µg	39314.01

Buffers and Reagents for Nucleic Acid Electrophoresis

SERVA's ready-to-use electrophoresis buffers save not only time but guarantee best results because they are made from high-quality reagents and application tested. Reagents "electrophoresis grade" are in-house tested for electrophoresis applications. "Molecular biology grade" reagents are guaranteed DNase/RNase-free.

- Ready-to-use solutions for saving time and work
- Application tested for best results in electrophoresis

Electrophoresis Buffers and Reagents

Product	Size	Cat. no.
TAE Buffer, 10x, molecular biology grade	1 L	42553.01
	10 L	42553.04
TAE Buffer, 50x, molecular biology grade	1 L	42549.01
TBE Buffer, 10x	2x 500 ml	42557.01
Acetic acid 100 %, analytical grade	1 L	45633.01
	2.5 L	45633.02
Boric acid, electrophoresis grade	1 kg	15166.02
Bromophenol Blue-Na-salt	5 g	15375.01
	25 g	15375.02
Ethylenediamine tetraacetic acid-Na_2-salt	100 g	11280.01
	1 kg	11280.02
	5 kg	11280.03
Ethylenediamine tetraacetic acid-Na_2-salt, molecular biology grade	250 g	39760.01
Glycerol from plant 87 %, molecular biology grade	1 L	39788.01
Tris(hydroxymethyl)aminomethane, molecular biology grade	500 g	37186.02
	1 kg	37186.03
	2.5 kg	37186.04
Tris(hydroxymethyl)aminomethane, electrophoresis grade	500 g	37181.01
	1 kg	37181.02
	2.5 kg	37181.03
Sucrose, analytical grade	500 g	35579.02
	5 kg	35579.03

BlueMarine™ Submarine Chambers

BlueMarine™ 100/200 and BlueMarine™ HTS are robust submarine chambers for agarose gel electrophoresis. The BlueMarine™ electrophoresis units are applied to separation of nucleic acids in agarose gels. Most common applications are rapid screening of PCR fragments, analysis of restriction digests and plasmid preparations, checking *in vitro* transcripts etc.

- Robust acrylic construction – made in Germany
- UV transparent gel trays
- Casting gates for leak-free gel pouring

BlueMarine™ 100/200 & BlueMarine™ HTS

Product	Size	Cat. no.
BlueMarine™ 100	1 piece	BM-100
BlueMarine™ 200	1 piece	BM-200
BlueMarine™ HTS	1 piece	BM-HTS

Notes

Equipment

HPE™ BlueHorizon™ / HPE™ BlueTower

The SERVA horizontal systems HPE™ BlueHorizon™ and HPE™ BlueTower are flatbed polyacrylamide electrophoresis gel systems for 1- and 2-dimensional separations, providing second to none resolution, reproducibility and sensitivity – the first true High Performance Electrophoresis system.

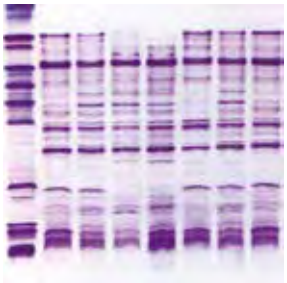
HPE™ BlueHorizon™

HPE™ BlueTower

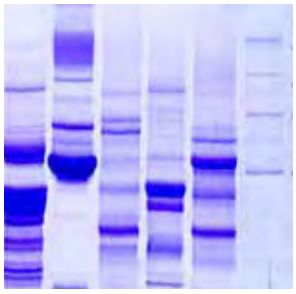
The HPE™ BlueHorizon™ is a single chamber system, that can be extended to two, three or four decks. The HPE™ BlueTower consists of four horizontal electrophoresis chambers, which are built as movable drawers into a metal housing.

- Compatible with all types of flatbed gel electrophoresis
- Highest resolution achieved by premium quality ceramic cooling plate
- Thin polyacrylamide gels, format up to 260 mm x 205 mm
- Broad range of precast gels for various applications
- Complete range of reagents and consumables for self-casting of flatbed gels
- IQ/OQ/PQ qualification on request
- Technical support and workshops
- Replacement for MultiPhor II™: compatible format

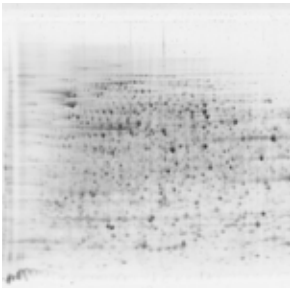
Isoelectric Focusing



SDS PAGE

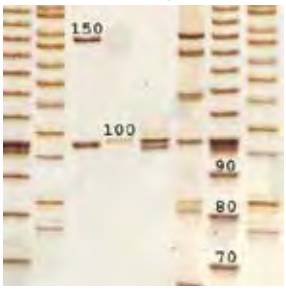


2D PAGE

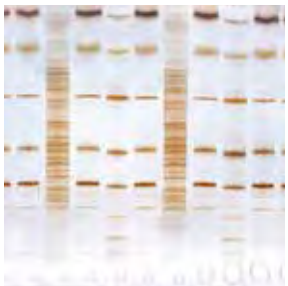


Native PAGE

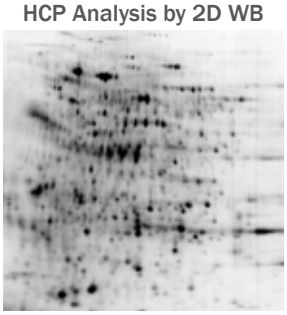
Nucleic Acid Separation



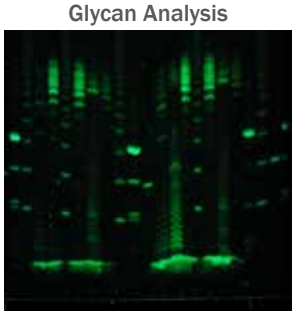
Excellent Gel



HCP Analysis by 2D WB



Glycan Analysis

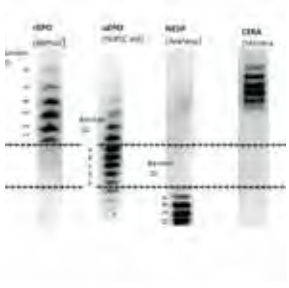


CSF Separation

Urinary Protein Analysis

Antibody Separation

EPO Differentiation



The HPE™ BlueHorizon™ and HPE™ BlueTower are connected to an external water chiller for optimum cooling of the plate(s). The system does not require buffer chambers. Instead fibre wicks are soaked with concentrated electrophoresis buffers and placed between the gel edges and the unbreakable, platinum coated electrode rods, which are mounted on each lid. The electrode positions are adjustable to different gel sizes, a lid for bi-directional electrophoresis is available.

The gels, e.g. less than 1 mm thin film-backed precast HPE™ gels, are protected from light during the run. No glass plates are used. The gels are placed on ceramic cooling plates, which ensures very efficient heat dissipation and therefore straight electrophoretic migration in each gel.

The HPE™ BlueTower is equipped with a sophisticated electronic sensor system that delivers information about the electric field distribution between the HPE™ gels, and indicates which drawer chambers are in use. The HPE™ BlueHorizon™ and HPE™ BlueTower are run by an external power supply (cat. no. BP-3000-HPE) and a thermostatic circulator (cat. no. HPE-CU).

Specifications

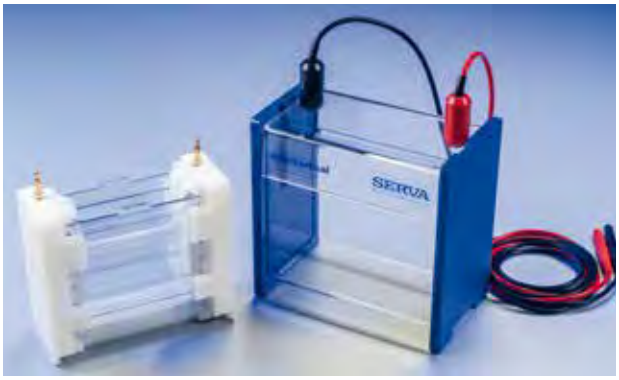
Type	HPE™ BlueHorizon™	HPE™ BlueTower
Voltage max.	1.500 V	1.500 V
Current max.	40 mA	40 mA
Gel size max.	260 mm x 205 mm	260 mm x 205 mm
Electrode distance	270 mm, 195 mm, 115 mm	270 mm, 195 mm, 115 mm
Temperature operating range	4 °C to 30 °C	4 °C to 30 °C
Dimensions	450 mm x 120 mm x 500 mm	450 mm x 550 mm x 500 mm
Weight	6 kg	35 kg
Stackable	Up to 4 units, simultaneous operation	no

HPE™ BlueHorizon™ / HPE™ BlueTower

Product	Size	Cat. no.
HPE™ BlueHorizon™	1 unit	HPE-BH
HPE™ BlueHorizon™ PS (HPE™ BlueHorizon™ + BluePower™ 3000 HPE™ Power Supply)	1 system	HPE-BHP
HPE™ BlueHorizon™ C (HPE™ BlueHorizon™ + HPE™ Cooling Unit)	1 system	HPE-BHC
HPE™ BlueHorizon™ System (HPE™ BlueHorizon™ + BluePower™ 3000 HPE™ Power Supply + HPE™ Cooling Unit)	1 system	HPE-BHSYS
HPE™ BlueHorizon™ Double Deck	1 unit	HPE-BHD
HPE™ BlueHorizon™ Triple Deck	1 unit	HPE-BHT
HPE™ BlueHorizon™ Quadra Deck	1 unit	HPE-BHQ
Stabilizing Feet, for HPE-BH	1 pair of 2	HPE-SF
Stabilizing Clamps, for HPE-BH	1 pair of 2	HPE-SC
HPE™ BlueHorizon™ Bidirectional	1 unit	HPE-BH3E
3-Electrode Lid for Bi-Directional Electrophoresis	1 unit	HPE-3EL
HPE™ Tower	1 unit	HPE-T02
HPE™ Tower System (HPE™ Tower, BluePower™ 3000 HPE™ Power Supply, HPE™ Cooling Unit)	1 system	HPE-TS2
HPE™ Electrode Lid with IPG Tray	1 unit	HPE-ELIPG
BluePower™ 3000 HPE™ Power Supply (3000V, 200mA, 300W)	1 unit	BP-3000-HPE
HPE™ Cooling Unit (Chiller)	1 unit	HPE-CU1

BlueVertical™ PRiME™

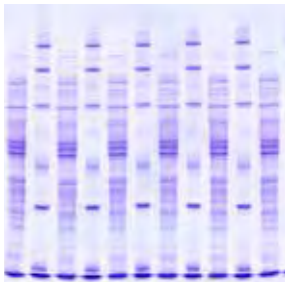
The **BlueVertical™ PRiME™** is a dual mini tank system to operate one or two precast gels. It accomodates SERVAGel™ TG PRiME™, all other types of SERVAGel™ and all other commercially available precast gels with an outer cassette dimension of 10 cm x 10 cm x 0.7 cm. A casting stand and accessories for self-casting of mini vertical polyacrylamide gels are available. Separation of proteins by SDS PAGE, native PAGE and IEF can be carried out as well as separation of nucleic acids.

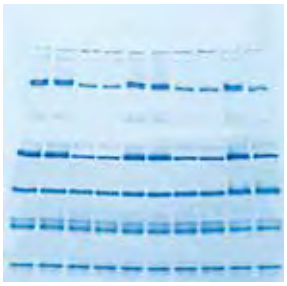


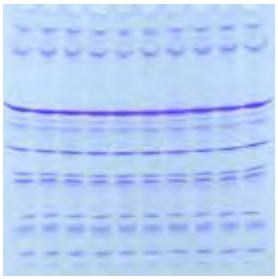
The **BlueVertical™ PRiME™ Tank Blotter** consists of the identical outer buffer chamber and contains the innovative blot module. The tankblotting module is designed to blot two mini gels. As a stand alone product it fits directly in your BlueVertical™ PRiME™ chamber (BV-104). Thanks to the intelligent construction, even very large proteins can be blotted very efficiently from the gel onto the membrane after electrophoresis in a gentle tank blotting process cooled by the surrounding buffer. Easy handling without clamps. No frail hinges.

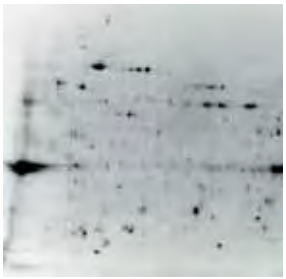
The unit is, of course, in accordance with the European safety guidelines (CE mark). When quality becomes an issue – choose BlueVertical™ PRiME™.

- Superb results
- Top resolution
- Easy and safe to handle
- Unique, leak-free clamp system
- Smart design – made in Germany
- For SERVAGel™ precast gels
- Gel casting stand and asseccories available


SDS PAGE


Native PAGE


Isoelectric Focusing


Western Blotting

BlueVertical™ PRiME™

Product	Size	Cat. no.
BlueVertical™ PRiME™	1 unit	BV-104
BlueVertical™ PRiME™ Tank Blotter	1 unit	BV-104-TB
BlueVertical™ PRiME™ Blot Module	1 unit	BV-104-B
BlueVertical™ PRiME™ Casting Stand	1 unit	BV-104-C
Glass Plate, Plain 3.0 mm, with 1 mm Spacer	4 pieces	BV-GPP-1.0
Glass Plate, Plain 3.0 mm, with 1.5 mm Spacer	4 pieces	BV-GPP-1.5
Glasss Plate, Notched 3.0 mm	4 pieces	BV-GP-N
Comb, 1.0 mm, 10 wells	1 piece	BV-10-1.0
Comb, 1.0 mm, 12 wells	1 piece	BV-12-1.0
Comb, 1.0 mm, 15 wells	1 piece	BV-15-1.0
Comb, 1.5 mm, 10 wells	1 piece	BV-10-1.5
Comb, 1.5 mm, 12 wells	1 piece	BV-12-1.5
Comb, 1.5 mm, 15 wells	1 piece	BV-15-1.5
Dummy Plate	1 piece	BV-104-7

Blotting Apparatus – BlueBlot™ Semi-Dry Blotter

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 limitations.

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 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 basis unit.

- Platinum-covered steel net as anode
- Spring-mounted anode for blotting stacks
- Stainless steel plate as cathode
- Deployable for thicker gels and blotting stacks

Specifications

Type	BlueBlot™ SD11	BlueBlot™ SD17	BlueBlot™ SD26
Blotting area	11 cm x 11 cm	17 cm x 17 cm	24 cm x 26 cm
Operating range	0.8 – 3.5 mA/cm²	0.8 – 3.5 mA/cm²	0.8 – 3.5 mA/cm²
Requirements	200 V, 500 mA	200 V, 1000 mA	200 V, 2 A
Dimensions	31 cm x 23 cm x 11 cm	31 cm x 23 cm x 11 cm	40,5 cm x 29,5 cm x 10,5 cm
Weight	3 kg	3 kg	7,8 kg

BlueBlot™ SD

Product	Size	Cat. no.
BlueBlot™ Semi-Dry Blotter SD 11	1 unit	BB-SD11
BlueBlot™ Semi-Dry Blotter SD 17	1 unit	BB-SD17
BlueBlot™ Semi-Dry Blotter SD 26	1 unit	BB-SD26
Electrode Set for BB-SD11	1 unit	BB-E11
Electrode Set for BB-SD17	1 unit	BB-E17

Blotting Apparatus – Gravity Blotter

The SERVA Gravity Blotter has been developed by SERVA to blot plastic foil-backed 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.

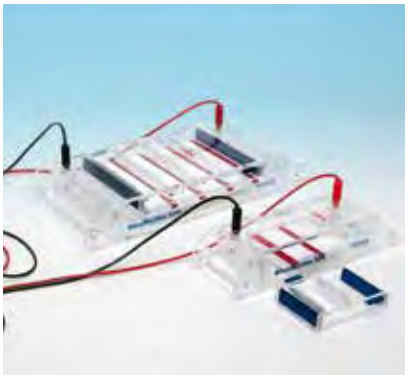
- Base plate with a transfer area of 14 cm x 29 cm.
- 3 aluminium plates, 4 kg each
- Transfer time is 4 h or overnight.

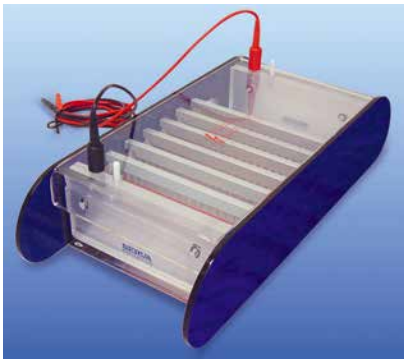
Gravity Blotter

Product	Size	Cat. no.
Gravity Blotter	1 piece	GB-14X29

BlueMarine™ 100/200 & BlueMarine™ HTS

The BlueMarine™ electrophoresis units are applied to separation of nucleic acids in agarose gels. Most common applications are rapid screening of PCR fragments, analysis of restriction digests and plasmid preparations, checking *in vitro* transcripts etc. BlueMarine™ units are designed for safe and easy handling. The rugged, most durable acrylic construction, double insulated cables and gold plated electrical connectors ensure a long-lasting lifetime. The recessed power connectors are integrated into the safety lid. The new designed platinum electrodes can be easily replaced by the user.





BlueMarine™ 100/200

- Robust acrylic construction
- UV transparent gel trays
- Casting gates for leak-free gel pouring
- Red contrasting strips for easy sample loading
- Broad range of accessories available
- Smart design – made in Germany

BlueMarine™ HTS

- Innovative system for high-throughput analysis
- Includes 6 aluminium combs with 17 sample wells each
- Includes casting stand for leak-free gel casting
- For 102 samples, separation distance max. 6 cm
- For long runs of 17 single samples, distance max. 18 cm
- Smart design – made in Germany

Specifications

Type	BlueMarine™ 100	BlueMarine™ 200	BlueMarine™ HTS
Voltage (max)	300 V	500 V	500 V
Current (max)	200 mA	300 mA	300 mA
Gel format	7 cm x 10 cm	15 cm x 15 cm; 15 cm x 20 cm	17.5 cm x 19.2 cm
Approx. gel volume (5 mm)	35 ml	115 ml; 150 ml	160 ml
Comb positions	2	4	6
Maximum sample number	28	124	102
Electrode distance	180 mm	285 mm	285 mm
Volts per cm	14 V - 140 V	20 V - 200 V	20 V - 200 V
Dimensions (WxHxD)	95 mm x 80 mm x 290 mm	175 mm x 95 mm x 390 mm	195 mm x 80 mm x 380 mm
Weight	0.8 kg	1.6 kg	3.5 kg

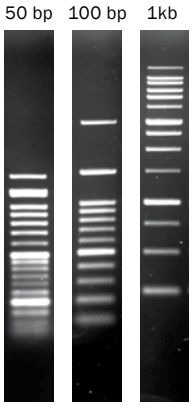
▶ BlueMarine™ 100/200 & BlueMarine™ HTS

Product	Size	Cat. no.
BlueMarine™ 100	1 unit	BM-100
BlueMarine™ 200	1 unit	BM-200
BlueMarine™ HTS	1 unit	BM-HTS

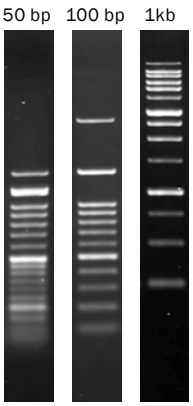
Accessories

Product	Number of wells	Thickness of comb (mm)	Width of well (mm)	Application	Cat. no.
Comb for BM-100 Depth of well: 10 mm each	14	1.5	3	single pipette, analytical	BM-100-14-1.5
	14	2.0	3		BM-100-14-2.0
	12	1.0	4		BM-100-12-1.0
	12	1.5	4		BM-100-12-1.5
	12	2.0	3.7		BM-100-12-2.0
	15	0.75	2.7		BM-100-15-0.75
	8	1.0	6		BM-100-8-1.0
	8	1.5	6		BM-100-8-1.5
Comb for BM-200 Depth of well: 10 mm each	10	1.0	12	single pipette, analytical	BM-200-10-1.0
	10	1.5	12		BM-200-10-1.5
	10	2.0	12		BM-200-10-2.0
	16	1.0	7		BM-200-16-1.0
	16	1.5	7		BM-200-16-1.5
	16	2.0	7		BM-200-16-2.0
	20	1.0	5		BM-200-20-1.0
	20	1.5	5		BM-200-20-1.5
	20	2.0	5		BM-200-20-2.0
	26	1.0	4		BM-200-26-1.0
	26	1.5	4		BM-200-26-1.5
	26	2.0	4		BM-200-26-2.0
	31	1.0	2	multi-channel pipette, analytical	BM-200-M31-1.0
	26	1.0	3		BM-200-M26-1.0
	26	1.5	3		BM-200-M26-1.5
	26	2.0	3		BM-200-M26-2.0
Gel tray				7 cm x 10 cm	BM-100-21
				15 cm x 15 cm	BM-200-15-2
				15 cm x 20 cm	BM-200-20-2
Gel casting gates				for BM-100	BM-100-3
				for BM-200	BM-200-3
Replacement electrode				for BM-100	BM-100-RE
				for BM-200	BM-200-RE

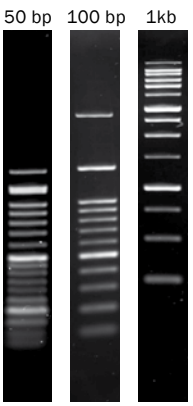
50 bp, 100 bp and 1 kb DNA Ladders (cat. nos. 39215, 39216, 39217; from left to right), separated on 1 % gels of different SERVA agarose qualities in TAE buffer. The appropriate agarose quality is mentioned below each image.



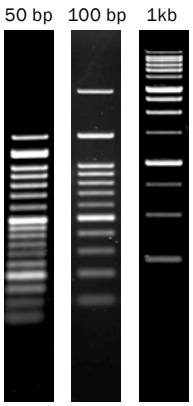
Agarose SERVA
cat. no. 11380



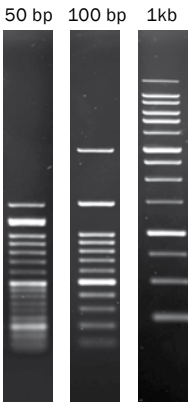
Agarose SERVA
Low Melting
cat. no. 11408



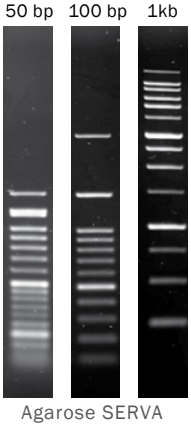
Agarose SERVA Premium
cat. no. 11381



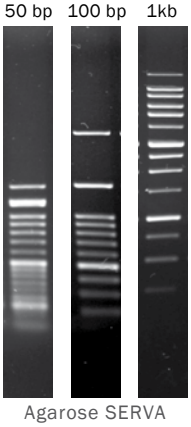
Agarose SERVA Premium
Low Melting
cat. no. 11382



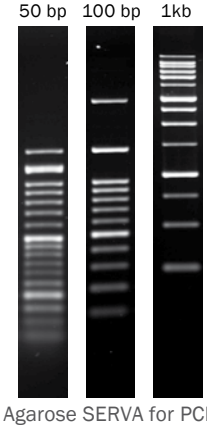
Agarose SERVA for
DNA Electrophoresis
cat. no. 11404



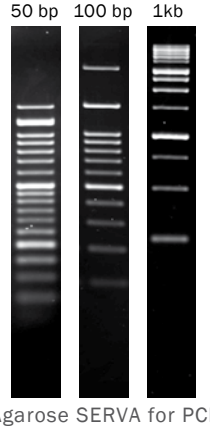
Agarose SERVA
Wide Range
cat. no. 11406



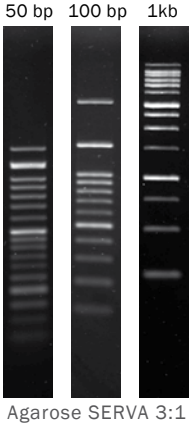
Agarose SERVA
Tablets
cat. no. 11405



Agarose SERVA for PCR
cat. no. 11383



Agarose SERVA for PCR
Low Melting
cat. no. 11384



Agarose SERVA 3:1
cat. no. 11385

BluePower™ Power Supplies for Electrophoresis

Different power supplies are needed to cover the large variety of separations such as SDS and native PAGE electrophoresis of proteins, DNA electrophoresis in agarose and PAGE gels, isoelectric focusing, 2D gel electrophoresis and electrotransfer of biomolecules e.g. Southern-, Northern- and Western-Blotting.

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

- **Automatic cross-over function** - each model has constant voltage, constant current and constant power capabilities with automatic cross-over and shows which parameter is kept constant.
- **Programmable power supplies** - user-defined editing of programs is done quickly. 9 programs with each up to 9 steps can be stored. Once a set has been made, the parameters can be changed during the run, without interrupting it.
- **Data logging, data transfer and remote control** - all BluePower™ power supplies have a continuous logging combined with a real time clock. Data can be transfered via USB interface to visualize and examine the stored run details. Moreover the power supply could be controlled by your computer via remote control function.
- **Timer Function** - the timer function enables you to run your gels at a constant time, while the Vh integrator gives you maximum reproducibility of difficult runs.
- **Voltage Ramp Mode** - a linear voltage gradient for any step provided the limiting current current or power is not attained.

Specifications

Type	BluePower™ 400 Marine	BluePower™ 600 PRiME™	BluePower™ 300 BLOT	BluePower™ 3000 HPE™	BluePower™ 6000 IPG
Regulation	const. Voltage / const. current/ const. power / programming				
Voltage	0 V – 400 V	0 V – 600 V	0 V – 300 V	0 V – 3000 V	0 V – 6000 V
Current	0 mA – 500 mA	0 mA – 1000 mA	0 mA – 2000 mA	0 mA – 30 mA (LCu) 0 mA – 300 mA (HCu)	0 mA – 15 mA (LCu) 0 mA – 150mA (HCu)
Power	0 W – 50 W	0 W – 300 W	0 W – 300 W	0 W – 300 W	0 W – 300 W
Voltage	1 V	1 V	1 V	1 V	1 V
Current	1 mA	1 mA	1 mA	0.1 mA (LCu) 1 mA (HCu)	0.1 mA (LCu) 1 mA (HCu)
Power	1 W	1 W	1 W	0.1 W (LCu) 1 W (HCu)	0.1 W (LCu) 1 W (HCu)
Voltage	1 V	1 V	1 V	1 V	1 V
Voltage	200 V – 260 V, 50/60 Hz , Optional: 90 V – 130 V, 50/60 Hz				
Temperature	0 °C – 40 °C				
Humidity	0 % – 95 %				
Security Measures	Ground leakage detection / Overload detection / No load detection				
Dimensions	163 mm x 300 mm x 307 mm				

Selection Guide

Model	BluePower™ 400 Marine	BluePower™ 600 PRiME™	BluePower™ 300 BLOT	BluePower™ 3000 HPE™	BluePower™ 6000 IPG
Voltage $_{max.}$	400 V	600 V	300 V	3000 V	6000 V
Current $_{max.}$	500 mA	1000 mA	2000 mA	300 mA	150 mA
Power $_{max.}$	50 W	300 W	300 W	300 W	300 W
SDS PAGE	●	●	●	●	●
Native PAGE	●	●	●	●	●
Blotting (mini gel)	●	●	●	●	●
Blotting (large size)	●	●	●	●	●
Submarine	●	●	●	●	●
IEF (horizontal)	●	●	●	●	●
IEF (vertical)	●	●	●	●	●
2D (horizontal)	●	●	●	●	●
2D (vertical)	●	●	●	●	●
IPG Strip Focusing	●	●	●	●	●

● = best choice ● = suited ● = not suited/limited suited

- **BluePower™ 400 Marine Power Supply (BP-400-MAR)** - the BluePower™ 400 Marine Power Supply (400 V, 500 mA, 50 W) serves many applications like submarine electrophoresis of nucleic acid agarose gels and SDS PAGE in mini gel format. 4 x 2 outlets, programmable.
- **BluePower™ 600 PRiME™ Power Supply (BP-600-PRI)** - the allround instrument serving many applications, e.g., SDS PAGE, submarine electrophoresis and blotting. BluePower™ 600 PRiME™ Power Supply features 600 V, 1000 mA and 300 W. The BP-600-PRiME™ is particularly advised for operation of up to four vertical slab gel units run at higher voltage, also resulting in shorter running times and for blotting applications (tank blot, semi-dry blot). 4 x 2 outlets, programmable.
- **BluePower™ 300 Blot Power Supply (BP-300-BLO)** - 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.
- **BluePower™ 3000 HPE™ Power Supply (BP-3000-HPE)** - the BluePower 3000 HPE™ Power Supply (3000 V, 300 mA and 300 W) is designed for high voltage applications like isoelectric focusing, horizontal 2D gel electrophoresis. It comes with a special mode for low current applications such as IEF: the power supply can measure currents a slow as 10 microAmps and keep it's voltage constant at even 0 current. Other applications like SDS PAGE and submarine electrophoresis can be performed as well. 4 x 2 outlets, programmable.
- **BluePower™ 6000 IPG Power Supply (BP-6000-IPG)** - the BluePower™ 6000 HPE™ Power Supply (6000 V, 150 mA and 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 meassure currents a slow as 10 microAmps and keep it's voltage constant at even 0 current. Other applications like SDS PAGE and submarine electrophoresis can be performed as well. 4 x 2 outlets, programmable.

Power Supplies

Product	Size	Cat. no.
BluePower™ 400 Marine	1 unit	BP-400-MAR
BluePower™ 600 PRiME™	1 unit	BP-600-PRI
BluePower™ 300 BLOT	1 unit	BP-300-BLO
BluePower™ 3000 HPE™	1 unit	BP-3000-HPE
BluePower™ 6000 IPG	1 unit	BP-6000-IPG

SERVA BlueStain

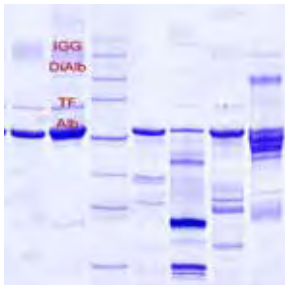
SERVA BlueStain - automatically stains polyacrylamide gels. Accurate, reproducible, user-friendly. The system pumps the required liquids into the gel tray. Pumping out after the preset incubation time is just as fast and complete. Thanks to SERVA BlueStain you can stain gel around gel using the same protocol. This makes the device interesting for research, but especially for the diagnostic laboratory.

SERVA BlueStain

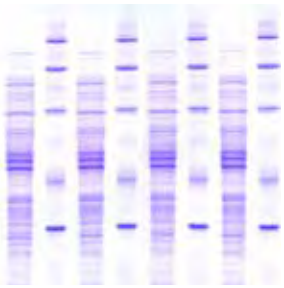
- Automatic staining of your gel
- Suitable for all staining protocols
- Pre-installed standard programs
- Free modification/entry of further programs
- 4° angle of inclination for gentle movement
- Large gel tray (30 cm x 25 cm)
- Optionally adaptable for mini gels and other formats

- **Easy to use** - 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.

Silver staining
(SERVA FocusGel CSF)



Coomassie® staining
(SERVA SDS Urine Gel)



Coomassie® staining
(SERVAGel™ PRiME™ protein gel)

- **Universal gel stainer** - the SERVA BlueStain staining machine 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. Silver staining programs are pre-installed on delivery.

- **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).

Specifications	Value
Number of programs	12
Inclination of table	4°
Maximum gel size	30 cm x 25 cm
Size touchscreen	5“ (800 px x 480 px)
Size (hxbxd)	39 cm x 17,5 cm x 41 cm
Power connection	240 V, 150 W max.

SERVA BlueStain

Product	Size	Cat. no.
SERVA BlueStain	1 unit	BST-01

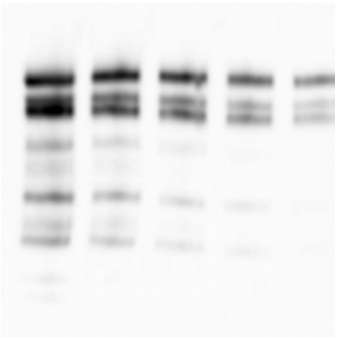
SERVA BlueShake

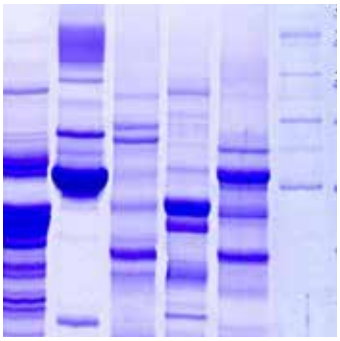
SERVA BlueShake - is a next generation rocking table. A solid aluminium housing, top quality electronic components and mechanics that meet the highest demands make BlueShake a laboratory device that is also ideally equipped for continuous use in research and diagnostic laboratories.

SERVA BlueShake

- Robust rocking table for highest demands
- 4° angle of inclination for gentle movement
- Large table surface for versatile use
- Timer function
- Direction of movement freely selectable (forward/reverse - lateral - circular)
- Gels, membranes etc. can be fixed with magnets if required
- Robust design - Made in Germany

- **Easy to use -** The large touch screen allows easy and intuitive operation of the device. If necessary, adjust the time, the rocking direction and the speed, start, done..





- **Sturdy, durable construction -** The device is characterized by a stable design: Built on an aluminium 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.

Specifications	Value
Inclination of table	4°
Size table	39 cm x 33 cm
Size touchscreen	5“ (800 px x 480 px)
Size (hxbxd)	39 cm x 17,5 cm x 41 cm
Power connection	240 V, 150 W max.

SERVA BlueStain

Product	Size	Cat. no.
SERVA BlueStain	1 unit	BST-01

Gel Documentation

A. Digital Imaging and Analysis System III

The Digital Imaging and Analysis System III is the ideal solution to master the daily tasks of gel documentation in the routine laboratory work. UV- and white-light transilluminator or epi-white-light are optional. LabImage Analysis software is the idel tool for 1D analysis of protein and nucleic acid gels, for more information please see below.

- For UV-, blue- and white-light applications
- SERVA DNA Stain Clear G, EtBr, Silver, Coomassie® etc.
- UV filter/holder included
- Stable metal housing, large door for easy gel handling
- Digital SLR camera system
- Dimensions: 420 mm x 550 mm x 520 mm, weight: 12 kg

Digital Imaging and Analysis System III

Product	Size	Cat. no.
Digital Imaging and Analysis System III, basic	1 unit	DIAS-III-B
White Light Top Light	1 set	WL-III
SERVA UV-Table C II	1 unit	UV-CII
SERVA WL-Table	1 unit	WL-28
UV to Blue Light Converter Screen	1 unit	UV-BLC
UV to White Light Converter Screen	1 unit	UV-WLC
UV Filter (58 mm) for DIAS-III	1 unit	UV-58

B. LabImage 1D Gel Analysis Software

LabImage 1D L-320 is the basic 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.

The L-340 version 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. Moreover, 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).

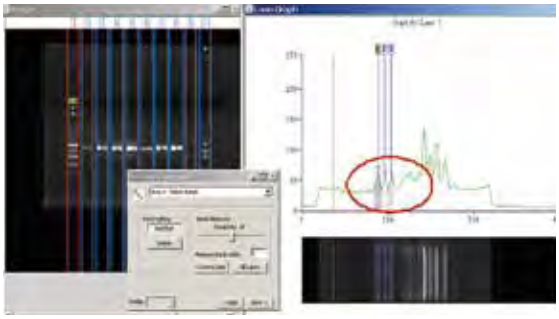
- Full 16 bit image processing
- Intuitive user interface/workflow
- Runs under Windows, Mac OS X, Linux
- Compliant with FDA21 CFR part 11 (module required)
- As single and network license available

LabImage 1D Gel Analysis Software

Product	Description	Size	Cat. no.
LabImage 1D L-320 Gel Analysis for academic	Single license	1 unit	LI-320-A
LabImage 1D L-320 Gel Analysis for corporate	Single license	1 unit	LI-320-C
LabImage 1D L-340 Gel Analysis for academic	Single license	1 unit	LI-340-A
LabImage 1D L-340 Gel Analysis for corporate	Single license	1 unit	LI-340-C
LabImage 1D L-360 Gel Analysis for academic	Single license	1 unit	L-360-A
LabImage 1D L-360 Gel Analysis for corporate	Single license	1 unit	L-360-C

C. SERVA BlueCube 300

- Compact and economical UV gel documentation system with small footprint
- LED indicator when instrument is powered on and connected to a PC or laptop
- Automatic UV light shut-off when drawer is opened
- View and analyze gels with bundled software
- Cost efficient - high performance and easy handling system at low price



SERVA BlueCube

Product	Size	Cat. no.
SERVA BlueCube 300	1 unit	BC-300
SERVA BlueCube 300L	1 unit	BC-300L

D. Blue/White Light Table

- Dual light source transilluminator
- Bottom-up LED illumination
- Adjustable light intensity (3 levels)
- Amber filter with magnetic, hinge-free design
- 5 minutes automatic power-off
- Stable metal housing
- Gel cutting knife - Cut out the target from the gel for further experiment
- Cardboard hood for image capturing with your smartphone!
- Enhanced portability with PowerBank (optional)

Specifications

Gel viewing area	180 mm x 120 mm
Light source	Built-in blue light & white light LED module
Emission maxima	470 nm
LED life	> 30,000 hours
Auto-shut off	5 min
Filter type	Amber filter (580 nm)
Dimension	185 mm x 30 mm x 220 mm
Weight	1.45 kg

Blue/White Light Table

Product	Size	Cat. no.
SERVA Blue/White Light Table	1 unit	BWL-T

E. VIS Gel Scanner BIO-5000 PLUS

- 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
- Certification for CRF Part 11 conformity on request (see also page 50)

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 mm x 356 mm
	Transmission: max. 216 mm x 254 mm
Linearity	3.7 O.D.
Resolution	4,800 dpi x 9,600 dpi
Interface	Hi-Speed USB 2.0
Dimension	385 mm x 158 mm x 567 mm
Weight	12 kg

VIS Gel Scanner

Product	Size	Cat. no.
VIS Gel Scanner BIO-5000 PLUS	1 unit	BIO-5000P

F. Fluorescence Gel Scanner BIO-1000F

- Transilluminating, imaging and gel extraction
- Imager for fluorescence protein stains
- Sensitivity up to 1 ng protein/band (SERVA Lightning Red)
- Imager for non-cancerogenic DNA stains
- Sensitivity up to 0.04 ng DNA (SERVA Stain Clear G)
- Includes filter plate for gel extraction
- Compact design to fit in crowded laboratory space

Specifications

Scanning modes	8-bit / 16-bit grayscale (65,536 shades of gray)
Scanning area	130 mm x 180 mm
Linearity	3.7 O.D.
Resolution	600 dpi
Light source	Blue LED (460 nm – 490 nm)
Sensitivity	DNA: 0.04 ng (SERVA DNA Stain Clear G) Proteins: 1 ng (SERVA LightningRed)
Interface	USB 2.0
Dimension	290 mm x 125 mm x 300 mm
Weight	4.85 kg

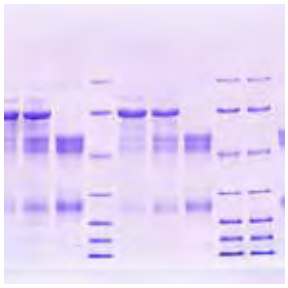
Fluorescence Gel Scanner

Product	Size	Cat. no.
Fluorescence Gel Scanner	1 unit	BIO-1000F

SERVICES in Electrophoresis

IQ/OQ/PQ

In quality and in-process control as well as research and development departments in biotechnological, diagnostic or other companies, it is becoming increasingly important to separate proteins and nucleic acids reproducibly using electrophoretic methods. This requires documented quality assurance both at installation (IQ) and operation of devices (OQ) as well as during ongoing processes (PQ).



SERVA Certified

Installation Quality

- Check packing list
- Full Installation
- Check Installation
- Operator briefing
- Documentation

SERVA Certified

Operational Quality

- 3 Reference runs
- Test run
- Documentation
- DIN EN ISO/IEC 17025

SERVA Certified

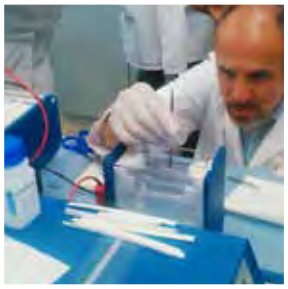
Performance Quality

- Service Contract
- Cleaning
- Maintenance
- Repair
- Re-Qualification

How does it work? Here is a brief sketch of the IQ/OQ/PQ-procedure for HPE™ BlueHorizon™ flatbed system for horizontal electrophoreis: Prior to shipment of devices, we perform 3 independent electrophoresis experiments per application as the master of reference. A qualified SERVA specialist performs the installation (IQ) and the test run (OQ) using SERVA reagents and gels from the same batch. On an annual basis, a qualified specialist of SERVA checks the device, repeats the separation as qualification test, using reagents and gels which are traceable by lot number (PQ). Qualify your lab with us!

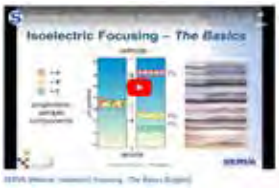
Workshops

SERVA offers training courses as practical hands-on workshops. The goal is to provide sound knowledge and practice in versatile electrophoresis techniques like isoelectric focusing (IEF), SDS PAGE and 2D gel electrophoresis. Please, inquire for specific programs. Benefit from our know-how!



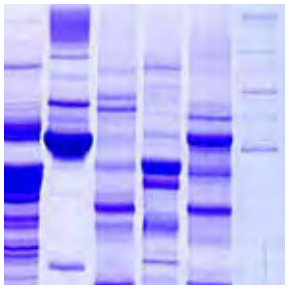
Webinars

SERVA offers webinars on many topics in electrophoresis and life sciences. All webinars are announced on the website. Each webinar will take about 20 to 30 minutes, questions by the audience will be answered within the webinar. Participation is free of costs. The webinars will be recorded and will then be available for free on the SERVA YouTube channel. Have fun watching!



CRF Part 11 Conformity

For SERVA Musketeer all-in-one gel documenation system (see page 44) and VIS Gel Scanner Bio-5000 Plus (see page 49), in combination with LabImage software, SERVA delivers on request full CRF Part 11 conformity for captured images and analyssis. Be conform from gel to report!

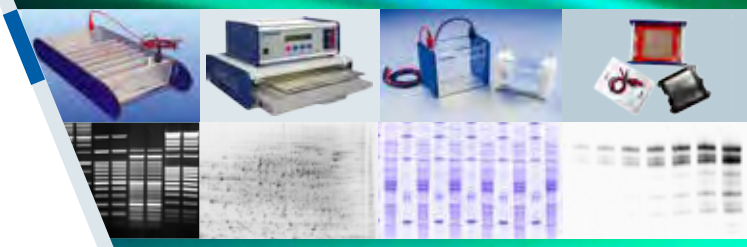


SERVA

■ serving scientists ■

SERVA WORLDWIDE

www.serva.de



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