

Biochemicals
Electrophoresis
Bioseparation
Life Sciences
Specials

SERVA 2D Gel Electrophoresis in Mini Format

High resolution 2D gel electrophoresis

I. SERVA IPG BlueStrips (1st Dimension)

SERVA IPG *BlueStrips* are dried gel strips with immobilized pH gradient used in high resolution 2D gel electrophoresis of proteins. 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 gel strips are 3 mm wide). For mini format 2D gel electrophoresis, SERVA recommends to use the strip length of 7 cm, other gel strip lengths are also available for large format 2D-GE (18 cm and 24 cm).

- **Consistent performance – 12 strips per package, all derived from the same production lot**
- **Reliability – accurate casting procedures ensures lot-to-lot reproducibility of pH profile**
- **GMP/GLP conformity – each strip has its individual lot number**



Ordering Information

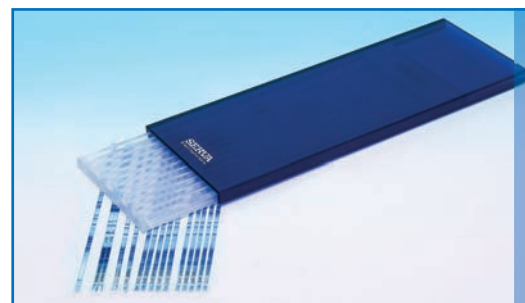
Product	Size	pH-range	Quantity	Cat. No.
SERVA IPG <i>BlueStrips</i>	7 cm	3 – 10	12 strips	43001.01
	7 cm	3 – 10 NL	12 strips	43002.01
	7 cm	4 – 7	12 strips	43003.01
	7 cm	6 – 10	12 strips	43004.01
	7 cm	3 – 6	12 strips	43005.01

SERVA offers a complete range of products for mini format 2D gel electrophoresis:

- SERVA IPG *BlueStrips*
- SERVA Rehydration Tray for IPG Strips
- SERVALYT™ Carrier Ampholytes
- SERVA Gel™ Tris-Glycine 2D Gels
- SERVA Proteome Markers
- SERVA Silver Staining Kit
- Trypsin NB Premium Grade, MS approved
- SERVA ICPL™ Kit

II. Rehydration Tray for IPG Strips

To rehydrate up to 12 IPG strips in lengths up to 24 cm. The rehydration tray is form stable and resistant against chemicals normally used when rehydrating IPG strips. After usage the tray can easily be cleaned using a mild washing-up liquid and rinsed with distilled water.



Ordering Information

Product	Size	Quantity	Cat. No.
Rehydration Tray for IPG Strips	7 – 24 cm	1 tray	43091.01

III. SERVALYT™ Carrier Ampholytes

The SERVA IPG *BlueStrips* have to be rehydrated before use. To support the solubility of the protein sample and to smooth the immobilized pH gradient, carrier ampholytes have to be added to the rehydration buffer. 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.



SERVA offers convenient 2 ml SERVALYT™ carrier ampholytes that corresponds to the pH-range of the IPG strips.

- Increased solubility of the protein sample
- Available in convenient 2 ml size

Ordering Information

pH range of IPG strip	SERVALYT™	Quantity	Cat. No.
3 – 10	3 – 10	2 ml	42940.04
3 – 10 NL	3 – 10 Iso Dalt	2 ml	42951.04
4 – 7	4 – 7	2 ml	42948.04
6 – 10	6 – 9	2 ml	42913.04
3 – 6	3 – 6	2 ml	42944.04

Other pH ranges and sizes are available. For more information please go to www.serva.de.

IV. SERVA Proteome Markers

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 gel electrophoresis and also by LC/MS, identity of each protein is verified by protein sequence analysis. The SERVA Proteome Markers provide an unique and useful tool to calibrate 2D gels, to serve as internal LC/MS standard or to be added to protein samples. One kit contains 5 vials of marker proteins, lyophilized. Each vial is sufficient for approx. 10 applications in mini format 2D gel electrophoresis.



SERVA Proteome Markers are developed in collaboration with the German Society of Proteome Research (DGPF).

- Mixture of eight proteins
- Proteins are qualified in 2D-GE, LC/MS
- Proteins are verified by protein sequence analysis

Ordering Information

Product	Quantity	Cat. No.
SERVA Proteome Markers	5 vials	39220.01

V. SERVA^{Ge}™ TG 2D Gels (2nd Dimension)

SERVA offers precast gels in cassettes for the vertical electrophoresis of proteins. Using the new SERVA^{Ge}™ you can separate your protein samples in the presence (SDS PAGE) or absence (native PAGE) of SDS. The main benefits of the new SERVA^{Ge}™ precast gels are the separation performance, the excellent staining and destaining properties and the overall easy handling. Each gel is sealed individually.

- Uniform 2D well with very even gel surface – optimal transfer from 1st to 2nd dimension
- Also suited for preparative work
- Easy handling, prime quality, reproducible results
- Available in four different acrylamide concentrations: 10%, 12%, 14% and 8 – 16%

SERVA^{Ge}™ Tris-Glycine 2D gels, unlike analytical 1D gels, have a 2D well, on which an IPG strip is placed which carries proteins already separated in the first dimension. The uniform surface of the 2D well ensures optimal transfer of proteins from the strip into the gel. SERVA^{Ge}™ 2D gels are available as homogeneous gels (10%, 12% and 14%) as well as gradient gels (8 – 16%).

The gels are 1 mm thin, the separation distance is 7 cm. Poured in unbreakable plastic cassettes of a format of 10 x 10 cm, the precast gels will fit the SERVABlueVertical 102 Mini Slab Gel Unit (BV102), the mini vertical systems Mighty Small II (SE260) and miniVE (SE300) from Hoefer. The cassette gels are also compatible with most commercially available slab gel tanks.

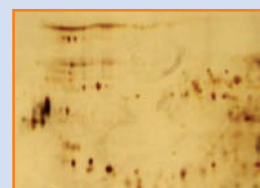
Ordering Information

Product	Quantity	Cat. No.
SERVA ^{Ge} ™ TG Vertical Tris-Glycine Gel 2D 10%	10 gels	43225.01
SERVA ^{Ge} ™ TG Vertical Tris-Glycine Gel 2D 12%	10 gels	43226.01
SERVA ^{Ge} ™ TG Vertical Tris-Glycine Gel 2D 14%	10 gels	43227.01
SERVA ^{Ge} ™ TG Vertical Tris-Glycine Gel 2D 8 – 16%	10 gels	43228.01

VI. SERVA Silver Staining Kit

The SERVA Silver Staining kit has been developed for easy staining of proteins after SDS PAGE and 2D-GE with high sensitivity. The stained gels show a clear background. The kit contains everything needed for fixation and staining of 25 mini gels. The procedure is fast (45 to 60 minutes). As the procedure is MS compatible proteins can be downstream analysed by mass spectrometry. The kit is also available for staining gels after native PAGE.

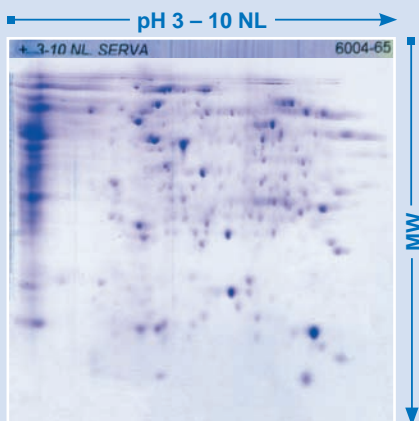
- MS compatible
- High sensitivity
- Fast staining procedure



2D gel electrophoresis (detail) of wheat germ extract, stained with SERVA Silver Staining Kit for SDS PAGE (Cat. No. 35076).

Ordering Information

Product	Quantity	Cat. No.
SERVA Silver Staining Kit SDS PAGE	1 kit	35076.01
SERVA Silver Staining Kit Native PAGE	1 kit	35077.01



2D gel electrophoresis of calf's kidney extract

- For "In-Gel-Rehydration" ca. 2.3 mg kidney extract was used for each SERVA IPG BlueStrip 3 – 10 NL (7 cm length, Cat. No. 43002)
- The focused IPG strip was placed on the precast gel (SERVA^{Ge}™ TG Vertical Tris-Glycine Gel 2D 14%, Cat. No. 43227.01) and embedded in agarose. Separation was performed in SERVA BlueVertical mini vertical system (Cat. No. BV 102) with 10 mA for 10 minutes and then with 25 mA for 80 minutes in Tris-Glycine running buffer.
- Afterwards the gel and a second IPG strip run in the first dimension under identical conditions were stained with SERVA Blue R.

TECHNICAL NOTES

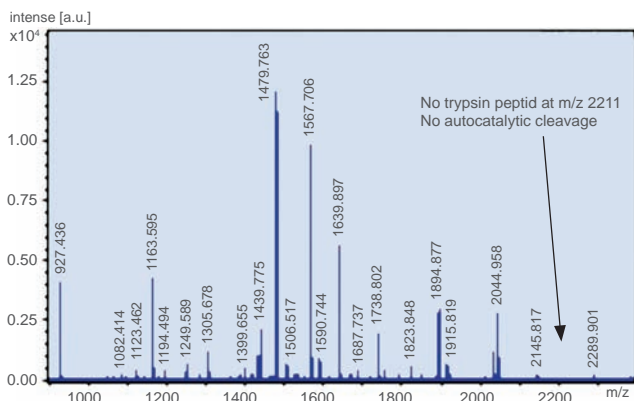
Electrophoresis

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VII. Trypsin NB Premium Grade, MS approved

Trypsin NB Premium Grade, MS approved is designed for digestion of proteins prior to sequence analysis. Based on excellent and proprietary production procedures, Trypsin NB Premium Grade, MS approved is of unique stability due to exceptionally low autocatalytic activity. Trypsin NB Premium Grade, MS approved is modified by reductive methylation and purified by chromatography, yielding a highly active molecule that is extremely resistant to autolytic digestion. Trypsin NB Premium Grade, MS approved is a highly purified enzyme preparation that is free of activity from other proteases. The absence of chymotryptic activity is verified by purity and function control which is carried out for each lot. Each lot of Trypsin NB Premium Grade, MS approved is qualified by in-gel digestion and mass spectrometric analysis.



- Each lot MS approved
- Exceptionally low autoproteolysis
- Extreme stability
- High purity
- High specificity
- No chymotryptic activity

Ordering Information

Product	Quantity	Cat. No.
Trypsin NB Premium Grade, MS approved, from porcine pancreas	4 x 25 µg	37284.01

VIII. SERVA ICPL™ Kit

The ICPL™ technology combines the power of Isotope Coded Protein Labelling with an unmatched dynamic range for protein identification and quantification due to its potential combination with intact protein fractionation steps. Whereas by other methods the labelling step is only performed after the proteolytic digestion, that is on the peptide level, with the ICPL™ kit the labelling step is made already on the protein level and includes all free amino acid groups. Therefore the analytical depth of a proteome analysis is improved significantly. The powerful ICPL™ technology for comparative quantification of proteins is available for the analysis of two or three proteomes. For the stable labelling of intact proteins 1-(¹²C₆¹H₄)-nicotinoyloxy-succinimide, 1-(¹³C₆¹H₄)-nicotinoyloxy-succinimide, and, with the SERVA ICPL™ Triplex Kit, as third label 1-(¹²C₆²D₄)-nicotinoyloxy-succinimide is used.

- Quantitative analysis of two or three proteomes in mass spectrometry
- Analysis of posttranslational modifications
- Analysis of isoforms



Ordering Information

Product	Quantity	Cat. No.
SERVA ICPL™ Kit	1 kit (2 x 6 reactions)	39230.01
SERVA ICPL™ Triplex Kit	1 kit (3 x 6 reactions)	39231.01



SERVA
Electrophoresis

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