

## 2D electrophoresis simplified

ZOOM proteomics system—get high-resolution 2D electrophoresis results in one day

Two-dimensional (2D) electrophoresis is one of the most powerful techniques for the study of the proteome. Proteins are separated according to their isoelectric point in the first dimension (isoelectric focusing) and their size in the second dimension (SDS-PAGE). This expands the resolution of traditional gel electrophoresis and allows for the comparative analysis of protein expression between disease states or drug treatments. Our 2D electrophoresis portfolio was developed to provide experienced scientists and first-time users alike with the tools for fast, easy, and high-resolution protein separation in just one day. Discover our solutions for a simplified approach to 2D electrophoresis.

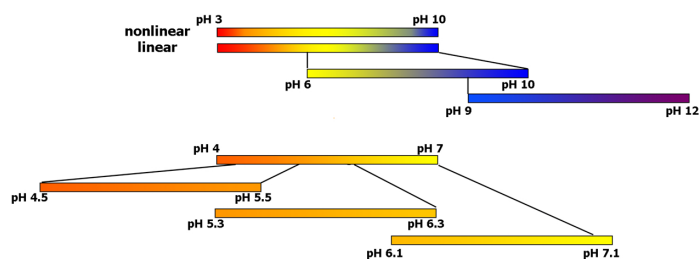
### First dimension

The Invitrogen™ ZOOM™ IPGRunner™ System is a cost-effective and efficient solution for isoelectric focusing (IEF). It supports the analysis of complex protein samples in a fraction of the time required with traditional methods. The ZOOM IPGRunner System is designed to be easy to use, and to allow first-dimension separation of up to 12 samples in as little as 3 hours. The convenient, self-contained cassettes and easy-to-handle Invitrogen™ ZOOM™ IPG Strips simplify rehydration and focusing, while the oil-free mini-gel format eliminates the mess of mineral oil for fast, efficient 2D electrophoresis.

### IPG strips

ZOOM IPG Strips are 7 cm long, immobilized pH gradient (IPG) gels available in a variety of pH-range formats. They are ideal for reproducible, high-resolution isoelectric focusing that builds the foundation for well-resolved second-dimension protein spots. Nonlinear pH IPG strips expand the middle pH range, where most proteins concentrate, offering greater resolution in this region. Narrower pH-range IPG strips can be used to increase the resolution of the system without having to resort to finicky and time-consuming larger strips and gels.

There are eight types of ZOOM IPG Strips with overlapping ranges:



## Carrier ampholytes

Invitrogen™ ZOOM™ Carrier Ampholytes are small, soluble molecules with both positive and negative charge groups that sort at their relative position based upon their isoelectric field, setting up a pH gradient. Carrier ampholytes help stabilize the pH gradient and current in IPG strips and aid in protein solubility, resulting in more reproducible IEF resolution. For optimal results, select the carrier ampholytes that match the pH range of the chosen IPG strips.

## PowerEase Touch HV Power Supply

The Invitrogen™ PowerEase™ Touch HV Power Supply empowers you with a versatile and modern interface. The HV model supports IEF and 2D electrophoresis with an intuitive backlit touchscreen and preprogrammed methods for ZOOM IPG strip, 1D, and 2D electrophoresis. Quickly navigate to the method of your choice and start your run in just three simple steps, or program and save up to 100 custom protocols.

## Welcome packs

Our first- and second-dimension welcome packs combine all the components necessary to get started with 2D electrophoresis. Just add ZOOM IPG strips and carrier ampholytes.

See the table below for a complete list of the products included in each welcome pack:

	Name	Components
First dimension	<a href="#">PowerEase Touch HV Power Supply ZOOM IPGRunner Welcome Pack</a>	PowerEase Touch HV Power Supply ZOOM IPGRunner Mini-Cell ZOOM IPGRunner Cassettes ZOOM Urea ZOOM CHAPS ZOOM Equilibration Trays
Second dimension	<a href="#">NuPAGE Bis-Tris XCell SureLock Mini-Cell Welcome Pack, 4 to 12%, IPG-Well</a>	XCell SureLock Mini-Cell tank NuPAGE 4 to 12% Bis-Tris ZOOM gels NuPAGE LDS Sample Buffer (4X) NuPAGE Sample Reducing Agent (10X) NuPAGE MES SDS Running Buffer (20X) PageRuler Plus Prestained Protein Ladder

## Second dimension

Invitrogen™ ZOOM™ Gels are designed for optimal 2D separation following isoelectric focusing. They feature an IPG well designed to easily accommodate 7 cm IPG strips and a molecular weight marker well. The Invitrogen™ NuPAGE™ Bis-Tris gel chemistry helps preserve protein integrity and offers superior reproducibility. Our 2D gels are compatible with the Invitrogen™ XCell SureLock™ Mini Cell electrophoresis system and the Invitrogen™ Mini Gel Tank.

## Protein gel staining

We offer a broad range of protein stains that combine high sensitivity with rapid and easy staining protocols. Invitrogen™ protein gel stains include Coomassie, silver, and fluorescent-based stains compatible with downstream excision of the protein spot, tryptic digestion, and mass-spectrometry analysis. Protein posttranslational modifications can be quickly detected with our protein modification staining kits, specific for phosphoprotein or glycoprotein detection, and are suitable for multiplex staining.

## First dimension

### Ordering information

Description	Size	Cat. No.
PowerEase Touch HV Power Supply and ZOOM IPGRunner Welcome Pack	1 kit	<a href="#">PSHV00Z</a>
ZOOM IPGRunner Mini-Cell	1 system	<a href="#">ZM0001</a>
ZOOM IPGRunner Combo Kit	1 kit	<a href="#">ZM0002</a>
ZOOM IPGRunner Cassette	10 cassettes	<a href="#">ZM0003</a>
ZOOM Equilibration Trays	10 pack	<a href="#">ZM0007</a>
ZOOM IPGRunner Cassettes and Trays	10 trays, 10 cassettes	<a href="#">ZM0008</a>
ZOOM IPG Strips - pH 3–10NL (nonlinear)	12 strips	<a href="#">ZM0011</a>
ZOOM IPG Strips - pH 3–10L (linear)	12 strips	<a href="#">ZM0018</a>
ZOOM IPG Strips pH 4–7	12 strips	<a href="#">ZM0012</a>
ZOOM IPG Strips pH 6–10	12 strips	<a href="#">ZM0013</a>
ZOOM IPG Strips pH 4.5–5.5	12 strips	<a href="#">ZM0014</a>
ZOOM IPG Strips pH 5.3–6.3	12 strips	<a href="#">ZM0015</a>
ZOOM IPG Strips pH 6.1–7.1	12 strips	<a href="#">ZM0016</a>
ZOOM IPG Strips pH 9–12	12 strips	<a href="#">ZM0017</a>
ZOOM Carrier Ampholytes pH 3–10	10 mL	<a href="#">ZM0021</a>
ZOOM Carrier Ampholytes pH 4–7	10 mL	<a href="#">ZM0022</a>
ZOOM Carrier Ampholytes pH 6–9	10 mL	<a href="#">ZM0023</a>
ZOOM Carrier Ampholytes pH 9–11	10 mL	<a href="#">ZM0024</a>
ZOOM Carrier Ampholytes pH 4–6	10 mL	<a href="#">ZM0025</a>

## Power supply

### Ordering information

Description	Size	Cat. No.
PowerEase Touch HV Power Supply	1 pack	<a href="#">PSHV00</a>
PowerEase Touch HV Adapter	1 set	<a href="#">PSHV00A</a>

## Second dimension

### Ordering information

Description	Size	Cat. No.
NuPAGE Bis-Tris XCell <i>SureLock</i> Mini-Cell Welcome Pack, 4 to 12%, IPG-well	1 kit	<a href="#">NP0330Z</a>
NuPAGE 4 to 12%, Bis-Tris ZOOM, 1.0 mm, Mini Protein Gel, IPG-well	10 gels (1 box)	<a href="#">NP0330BOX</a>
NuPAGE LDS Sample Buffer (4X)	250 mL	<a href="#">NP0008</a>
NuPAGE Sample Reducing Agent (10X)	10 mL	<a href="#">NP0009</a>
XCell <i>SureLock</i> Mini-Cell tank	1 unit	<a href="#">EI0001</a>
Mini Gel Tank	1 unit	<a href="#">A25977</a>
NuPAGE MES SDS Running Buffer (20X)	500 mL	<a href="#">NP0002</a>
NuPAGE MOPS SDS Running Buffer (20X)	500 mL	<a href="#">NP0001</a>

## Protein gel staining

### Ordering information

Description	Size	Cat. No.
SYPRO Ruby Protein Gel Stain	1 L	<a href="#">S12000</a>
SilverQuest Silver Staining Kit	1 kit	<a href="#">LC6070</a>
SimplyBlue SafeStain	1 L	<a href="#">LC6065</a>
Pro-Q Emerald 488 Glycoprotein Gel and Blot Stain Kit	1 kit	<a href="#">P21875</a>
Pro-Q Emerald 300 Glycoprotein Gel and Blot Stain Kit	1 kit	<a href="#">P21857</a>
Pro-Q Diamond Phosphoprotein Gel Stain	1 L	<a href="#">P33300</a>
Pro-Q Diamond Phosphoprotein Blot Stain Kit	1 kit	<a href="#">P33356</a>

See our large selection of protein stains at [thermofisher.com/proteinstains](https://thermofisher.com/proteinstains)

Find more information at  
[thermofisher.com/2Delectrophoresis](https://thermofisher.com/2Delectrophoresis)

