



## 2-D Electrophoresis Workflow

Speed, reliability, and optimized 2-D protein separation and visualization



Bio-Rad's

# 2-D Electrophoresis Workflow

For speed, reliability, and optimized protein separation and visualization



## Sample Preparation 1



## 1st Dimension Electrophoresis 2

- Complete the entire 2-D workflow in less than 2 days
- Optimize sample preparation and protein isolation
- Monitor IEF results using individually controlled voltage profiles
- Rapid SDS separation in as little as 20 minutes
- Sensitive, easy-to-use fluorescent gel stains
- Automated image analysis and spot detection

### ReadyPrep™ 2-D Starter Kit

- Ideal for users who are new to 2-D electrophoresis. Includes all reagents to prepare and run samples for IEF and SDS-PAGE

### PROTEAN® i12™ IEF System

- Run up to 12 IPG strips in 12 independently controlled, programmed lanes
- Able to run different IPG strip gradients, sample types, or rehydration buffers in a single run to optimize multiple experimental conditions

Additional Products



ReadyPrep 2-D Cleanup Kit



PROTEAN i12 IEF System



ProteoMiner™ Protein Enrichment Kit



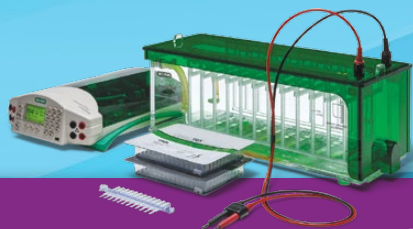
ReadyStrip™ IPG Strips



Cell lysis kits



ReadyPrep 2-D Starter Kit  
Rehydration/Sample Buffer  
Bio-Lyte® 3/10 Ampholyte



## 2nd Dimension Electrophoresis

# 3



## Staining

# 4



## Imaging and Analysis

# 5

### Criterion™ Dodeca™ Cell

- Run up to 12 handcast or Criterion™ Precast Gels simultaneously
- Criterion™ TGX™ Precast Gels with 11 cm ReadyStrip IPG Strips give the optimal combination of speed and resolution

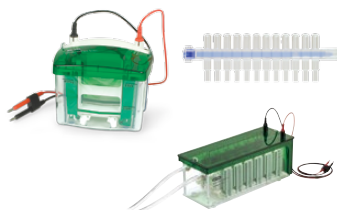
### Dodeca™ Stainer

- High-throughput gel staining ensures consistent results and minimizes gel breakage
- Oriole™ Fluorescent Gel Stain provides highly sensitive gel staining in 90 minutes

### ChemiDoc™ MP System

- Quantitative, reproducible results for fluorescence, chemiluminescence, and colorimetric detection
- Automated detection technology optimizes exposure time for both faint and intense bands on the same gel

Maximum Speed  
Mini Gels, 7 cm IPG Strips



Mini-PROTEAN® System

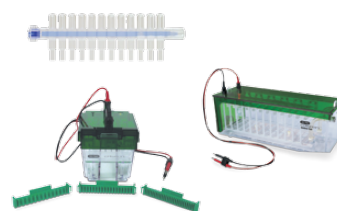


Oriole Fluorescent Gel Stain

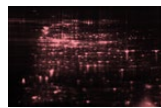


PDQuest™ Advanced 2-D Analysis Software

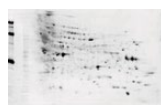
Speed/Resolution  
Midi Gels, 11 cm IPG Strips



Criterion™ System



Flamingo™ Fluorescent Gel Stain



SYPRO Ruby Protein Gel Stain

Maximum Resolution  
Large Gels, 17–24 cm IPG Strips



PROTEAN® II and PROTEAN® Plus Dodeca™ Systems



QC Colloidal Coomassie Stain



Silver Stain Plus™ Kit

### **NEW!** Image gels without staining: TGX Stain-Free™ technology

Available in both precast and handcast gels (mini and midi gels only).

Visit [bio-rad.com/2Dstainfree](http://bio-rad.com/2Dstainfree) for more information.

## Ordering Information

Catalog # Description

### Protein Sample Preparation

- 163-2105 **ReadyPrep 2-D Starter Kit**, includes protein sample and reagents sufficient to rehydrate, focus, and transfer to second-dimension gels for six 17 cm, ten 11 cm, or sixteen 7 cm ReadyStrip IPG Strips
- 163-2130 **ReadyPrep 2-D Cleanup Kit**, 50 preps, general purpose protein preparation kit
- 163-3006 **Proteominer Protein Enrichment Small-Capacity Kit**, 10 preps for processing 10 mg total protein, includes 10 spin columns, wash buffer, elution reagents, collection tubes
- 163-2141 **MicroRotor™ Cell Lysis Kit (Mammal)**, 15 preps, mammalian protein sample fractionation kit, includes 50 ml protein solubilization buffer (PSB), 2 packs of ReadyPrep Mini Grinders (10 per pack)

### 2-D Electrophoresis Instrumentation

- 164-6000 **PROTEAN i12 IEF System**, 90–240 VAC, includes basic unit and accessories to accommodate 7, 11, and 17 cm IPG strips

### IPG Strips

#### ReadyStrip IPG Strips, 12 per package

	7 cm	11 cm	17 cm	18 cm	24 cm
pH 3–10	163-2000	163-2014	163-2007	163-2032	163-2042
pH 3–10 NL	163-2002	163-2016	163-2009	163-2033	163-2043
pH 3–6	163-2003	163-2017	163-2010	163-2035	163-2045
pH 4–7	163-2001	163-2015	163-2008	163-2034	163-2044
pH 5–8	163-2004	163-2018	163-2011	163-2036	163-2046
pH 7–10	163-2005	163-2019	163-2012	163-2037	163-2047

### Protein Standards

- 161-0378 **Precision Plus Protein™ Standard Plugs**, pkg of 24, 1 mm thick agarose plugs containing 10 *Strep*-tagged recombinant proteins (10–250 kD), including three reference bands

### Electrophoresis Systems

- 165-8000 **Mini-PROTEAN Tetra Cell**, 4-gel vertical electrophoresis system, 0.75 mm gel thickness, includes companion module, 2 casting stands, 4 casting frames, 10-well combs, 5 short plates, and 5 spacer plates
- 165-4100 **Mini-PROTEAN 3 Dodeca Cell**, includes electrophoresis tank with built-in cooling coil, lid with power cables, 6 electrophoresis clamping frames, 2 buffer dams, drain line, 2 gel releasers
- 165-6001 **Criterion Cell**, vertical midi-format electrophoresis cell, includes buffer tank, lid with power cables, 3 sample loading guides (12 + 2-well, 18-well, 26-well)
- 165-4130 **Criterion Dodeca Cell**, includes electrophoresis buffer tank with built-in cooling coil, lid with power cables
- 165-3188 **PROTEAN II XL Cell**, wide format 1-D vertical electrophoresis cell, 1.0 mm, includes PROTEAN II xi Basic Unit (#165-1834) and 1.0 mm IPG conversion kit (#165-3183)
- 165-4150 **PROTEAN Plus Dodeca Cell**, 100/120 V, includes electrophoresis buffer tank with built-in ceramic cooling core, lid, buffer recirculation pump with tubing, 2 gel releasers

Catalog # Description

### 2-D Sample Buffers and IEF Buffers

- 163-2106 **ReadyPrep 2-D Starter Kit Rehydration/Sample Buffer**, 10 ml, 8 M urea, 2% CHAPS, 50 mM DTT
- 163-2094 **Bio-Lyte 3/10 Ampholyte**, 100x, 1 ml
- 163-2093 **ReadyStrip 100x pH 7–10 Buffer**, includes only ampholytes, 1 ml

### Mini-PROTEAN Precast Gels (for 7 cm IPG Strips)

- 456-1041 **12% Mini-PROTEAN® TGX™ Precast Gel**
- 456-1081 **4–15% Mini-PROTEAN TGX Precast Gel**
- 456-1091 **4–20% Mini-PROTEAN TGX Precast Gel**
- 456-1101 **8–16% Mini-PROTEAN TGX Precast Gel**
- 456-1031 **10% Mini-PROTEAN TGX Precast Gel**
- 456-9031 **Any kD™ Mini-PROTEAN TGX Precast Gel**
- 456-8121 **Any kD™ Mini-PROTEAN® TGX Stain-Free™ Gel**
- 456-8101 **8–16% Mini-PROTEAN TGX Stain-Free Gel**

### Criterion TGX Precast Gels (for 11 cm IPG Strips)

- 567-1071 **18% Criterion TGX Precast Gel**
- 567-1081 **4–15% Criterion TGX Precast Gel**
- 567-1091 **4–20% Criterion TGX Precast Gel**
- 567-1101 **8–16% Criterion TGX Precast Gel**
- 567-1111 **10–20% Criterion TGX Precast Gel**
- 567-1121 **Any kD Criterion TGX Precast Gel**
- 567-8121 **Any kD™ Criterion™ TGX Stain-Free™ Gel**
- 567-8101 **8–16% Criterion TGX Stain-Free Gel**

### Total Protein Gel Stains

- 161-0496 **Oriole Fluorescent Gel Stain**, 1x solution, 1 L
- 161-0491 **Flamingo Fluorescent Gel Stain**, 10x solution, 100 ml
- 170-3125 **SYPRO Ruby Protein Gel Stain**, 1x solution, 1 L
- 161-0803 **QC Colloidal Coomassie Stain**, 1 L, ready-to-use, non-hazardous colloidal Coomassie G-250 Stain for protein polyacrylamide gels
- 161-0449 **Silver Stain Plus Kit**, includes fixative enhancer concentrate, silver complex solution, reduction moderator solution, image development reagent, development accelerator reagents; stains 13 full size or 40 mini gels
- 165-3401 **Dodeca Stainer**, small, 100–240 V, includes 13 trays (12 clear, 1 white), 12 Criterion Tray Attachments, shaking rack, solution tank, lid with shaker motor, shaker control unit, gel clip

### Analysis Software

- 170-9630 **PDQuest Advanced 2-D Analysis Software**, 1-user license

### Imaging Systems

- 170-8280 **ChemiDoc MP System**, gel imaging system, PC or Mac, includes darkroom, UV transilluminator, epi-white illumination, camera, power supply, cables, Image Lab™ Software

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