

ELECTROPHORESIS REAGENTS

Dodeca™ Silver Stain Kit

- High-throughput capacity — stain up to 12 large format gels
- Convenience
- Mass spectrometry compatibility
- High sensitivity

Convenience — Plus the Capacity for High-Throughput Staining

Introduction

The Dodeca Silver Stain Kit enables detection of nanogram levels of protein in polyacrylamide gels. The kit is based on the method described by Sinha et al. (2001),* in which protein-bound silver ions are chemically reduced to form visible metallic silver. As its name implies, the kit is designed for use with the Dodeca Gel Stainer, and has been optimized to deliver convenient and reproducible high-sensitivity staining of large numbers of gels. The resulting spots can be analyzed by mass spectrometry without further treatment.

High-Throughput Capacity

It takes four or more silver stain kits from competitors to get the same staining capacity as one Dodeca Silver Stain Kit. The Dodeca Silver Stain Kit has the capacity to stain as many as 12 large format gels (up to 22.5 x 23.5 cm) or 24 Criterion™ Precast Gels (8.7 x 13.3 cm).** Although the kit is designed for high-throughput staining with the Dodeca Stainer, it can also be used to stain individual gels.***

Convenience

The kit is available in two sizes, designed to fill either the small or the large Dodeca Gel Stainer to full capacity. In addition, the kit is formulated with concentrated aqueous solutions that enable you to quickly prepare the proper volumes of working solutions to fill the Dodeca Stainer tanks, or just enough to stain a small number of gels.

* Sinha P et al. (2001). A new silver staining apparatus and procedure for matrix-assisted laser desorption/ionization-time of flight analysis of proteins after two-dimensional electrophoresis. *Proteomics* 1, 835–840.

** For more information about Criterion Precast Gels, request bulletin 2710.

*** The instruction manual includes directions for staining 1–12 gels.

Mass Spectrometry Compatibility

The Dodeca Silver Stain Kit utilizes the minimal concentration of formaldehyde (a reducing agent) required for silver development and no protein-modifying glutaraldehyde. Consequently, the procedure yields silver-stained proteins that are compatible with mass spectrometry, with no additional steps required prior to analysis. Therefore, quick identification of proteins can be performed.

Reduced Background and High Sensitivity

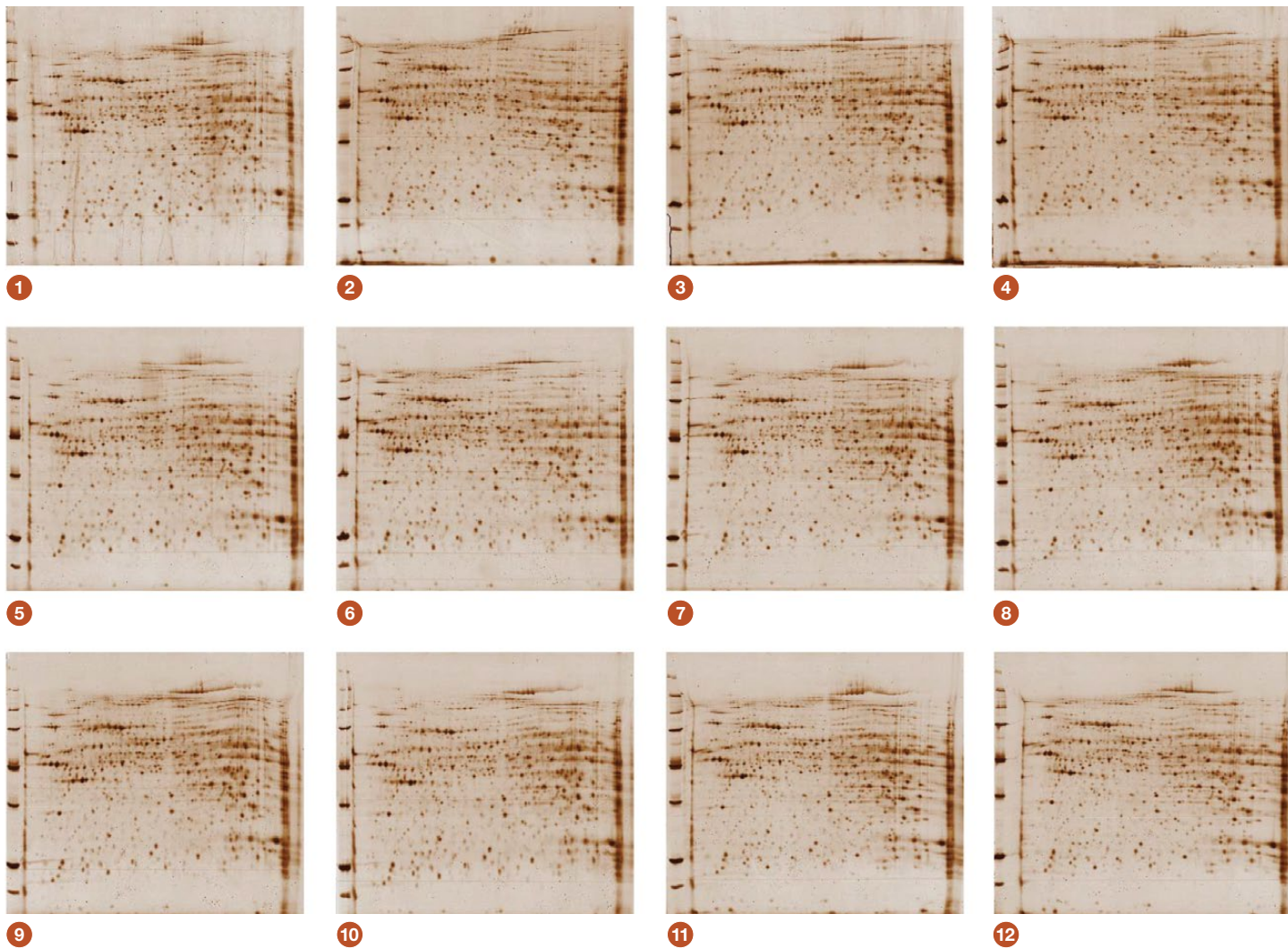
The chemistry of the kit has been optimized to minimize silver residue deposition in the Dodeca Gel Stainer. Likewise, the kit ensures reduced background staining and fewer artifacts to enhance the detection of low-abundance proteins. The kit provides excellent detection sensitivity (0.25–0.5 ng for bovine serum albumin).



BIO-RAD

Reproducible Silver Staining

A set of 12 large format gels was stained with the Dodeca Silver Stain Kit in the large Dodeca Stainer. The gels contained mouse liver samples (80 µg) prepared with the ReadyPrep™ Protein Extraction Kit (soluble/insoluble). The samples were cup loaded on 24 cm ReadyStrip™ IPG Strips (pH 5–8) and run with the PROTEAN® IEF Cell at 110,000 Vh, then applied to 12% Tris-HCl large format gels and run in the second dimension in the PROTEAN Plus Dodeca Cell at ~2,900 Vh. One-third of a Precision Plus Protein™ Unstained Standard Plug was applied to the right side of each gel for molecular weight determination.





Two sizes of the Dodeca Stainers are available to accommodate as many gel sizes as possible while maintaining effective staining.

Dodeca Gel Stainers

The Dodeca Stainers and accessories simplify and improve high-throughput staining and handling of large format protein gels, minimizing hands-on time and helping to eliminate gel breakage due to excessive or constricted movement. The Dodeca Gel Stainer comes in two sizes, large and small, to optimize staining solution volumes. By processing as many as 12 gels, the Dodeca Stainers match the capacity of the PROTEAN IEF Cell for first-dimension electrophoresis and the PROTEAN Plus Dodeca Cell for the second dimension to streamline your 2-D electrophoresis workflow. The Dodeca Gel Stainers ensure high-quality, consistent results, and are compatible with the Dodeca Silver Stain Kit, Bio-Safe™ Coomassie Stain, Coomassie Brilliant Blue R-250 Stain, and Flamingo™ Fluorescent Protein Gel Stain.

Features

- Shaker motor — attached to the lid, this provides a gentle, patent-pending shaking motion for optimal staining efficiency and prevents gels from breaking
- Staining trays — available in 2 sizes, these allow gels enough movement for thorough staining without damage. They double as transport trays. Gels easily slide off the trays onto an imager or spot cutter platform. Use the gel clip accessory to lift gels back onto the tray

- White staining tray — for monitoring the development step of the staining process
- Shaking rack — holds the staining trays at an angle to improve reagent flow and allow air bubbles to escape, ensuring uniform gel staining. Designed with built-in handles for easy placement into the solution tank

Accessories

- Storage boxes — for convenient storage of gels; up to 4 gels, including the staining trays, can be placed in a box for storage at 4°C
- Gel clip — supports large format gels during handling, reducing the risk of gel breakage. The gel clip clamps along one entire edge of a gel, distributing the weight evenly so that the gel can be easily lifted without tearing

For more information about Dodeca Gel Stainers and accessories, request bulletin 2971.

Ordering Information

Catalog #	Description
Dodeca Silver Stain Kits	
1610480	Dodeca Silver Stain Kit , for large Dodeca Gel Stainer, stains 12 large format gels
1610481	Dodeca Silver Stain Kit , for small Dodeca Gel Stainer, stains 12 large format or 24 Criterion gels
Kit Components	
1610472	Image Developer Concentrate , 2.5 ml
1610473	Sensitizer Concentrate , 700 ml
1610474	Sensitizer Concentrate , 1 L
1610475	Background Reducer Concentrate , 75 ml
1610476	Background Reducer Concentrate , 125 ml
1610477	Silver Reagent Concentrate , 140 ml
1610478	Silver Reagent Concentrate , 200 ml
1610479	Development Buffer Concentrate , 700 ml
1610482	Development Buffer Concentrate , 1 L
Dodeca Gel Stainers and Accessories	
1653400	Dodeca Gel Stainer , large
1653401	Dodeca Gel Stainer , small
1653403	Dodeca Gel Stainer with Dodeca Silver Stain Kit , large
1653404	Dodeca Gel Stainer with Dodeca Silver Stain Kit , small
1653414	Gel Clip , 1
1653429	Storage Box , large, holds up to 4 gels on large staining trays, 1
1653430	Storage Box , small, holds up to 4 gels on small staining trays, 1
1654131	AnyGel™ Stand , single-row gel stand
1655131	AnyGel Stand , 6-row gel stand
Stains and Standards	
1610787	Bio-Safe Coomassie Stain , 5 L
1610435	Coomassie Brilliant Blue R-250 Staining Solutions Kit , includes 1 L Coomassie Brilliant Blue R-250 staining solution, 2 x 1 L Coomassie Brilliant Blue R-250 destaining solution
1703138	SYPRO Ruby Protein Gel Stain , 5 L cube
1610492	Flamingo Fluorescent Protein Gel Stain , 10x, 500 ml
1610378	Precision Plus Protein Standard Plugs , unstained, 24 applications
PROTEAN Cells	
1654150	PROTEAN Plus Dodeca Cell , 100/120 V, includes tank, lid, buffer recirculation pump with tubing
1654151	PROTEAN Plus Dodeca Cell , 220/240 V
1654001	PROTEAN IEF Cell , 90–240 V

Ordering Information

Catalog #	Description
ReadyPrep Protein Extraction Kit	
1632085	ReadyPrep Protein Extraction Kit (soluble/insoluble) , 20 preps
ReadyStrip IPG Strips, 18 cm (12 per package)	
1632032	pH 3–10
1632033	pH 3–10, nonlinear gradient
1632035	pH 3–6
1632034	pH 4–7
1632036	pH 5–8
1632037	pH 7–10
ReadyStrip IPG Strips, 24 cm (12 per package)	
1632042	pH 3–10
1632043	pH 3–10, nonlinear gradient
1632045	pH 3–6
1632044	pH 4–7
1632046	pH 5–8
1632047	pH 7–10
Blotting Products for Large Format Gels	
1703990	Trans-Blot® Plus Cell with Plate Electrodes and Super Cooling Coil , includes 3 gel holder cassettes, cell with lid and power cables, 6 fiber pads, 1 pack blot absorbent paper (26.5 x 28 cm, pack of 30), roller, stirbar
1620251	Nitrocellulose Membrane , 0.45 µm, 26.5 x 28 cm, 10 sheets
1620252	Nitrocellulose Membrane , 0.2 µm, 26.5 x 28 cm, 10 sheets
1620255	Immun-Blot® PVDF Membrane , 25 x 28 cm, 10 sheets

Visit bio-rad.com/web/DodecaKit for more information.

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