

Instruction Manual

Precision Plus Protein™ Standard Plugs, Unstained

Catalog #161-0378

Product shipped at room temperature.

Store at 4°C upon arrival.

The Bio-Rad logo consists of the words "BIO-RAD" in a bold, white, sans-serif font. The text is contained within a dark green rounded rectangular shape with a slight gradient and a drop shadow.

BIO-RAD

Products for 2-D Electrophoresis, Proteomics

Catalog #	Description
161-1511	PROTEAN Plus Tris-HCl Gel, 12%, 24 cm IPG well
161-0787	Bio-Safe Coomassie Stain, 5 L
161-0449	Silver Stain Plus Kit
161-3138	SYPRO Ruby Protein Gel Stain, 5 L
161-0737	Laemmli Sample Buffer, 30 ml
161-0772	10 x Tris/Glycine/SDS, 5 L cube
163-2092	PROTEAN Plus Overlay Agarose
170-3990	Trans-Blot Plus Cell With Plate Electrodes and Super Cooling Coil
162-0251	Nitrocellulose Membrane, 0.45 μ m, 26.5 x 28 cm, 10 sheets
162-0252	Nitrocellulose Membrane, 0.2 μ m, 26.5 x 28 cm, 10 sheets
162-0253	Supported Nitrocellulose Membrane, 0.45 μ m, 26.5 x 28 cm, 10 sheets
162-0254	Supported Nitrocellulose Membrane, 0.2 μ m, 26.5 x 28 cm, 10 sheets
162-0255	Immun-Blot PVDF Membrane, 25 x 28 cm, 10 sheets
162-0256	Sequi-Blot PVDF Membrane, 25 x 28 cm, 10 sheets

Products for Blot Detection

161-0380	StrepTactin-HRP Conjugate, 0.3 ml, 150 applications
161-0382	StrepTactin-AP Conjugate, 0.3 ml, 150 applications
170-5040	Immun-Star HRP Chemiluminescent Substrate, 500 ml
170-5012	Immun-Star AP Substrate Pack

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Bio-Rad Laboratories, Inc.

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4117684 Rev C

**Representative
lot of Precision
Plus Protein
standard plug
on a 4–20% Tris-HCl
SDS-PAGE gel**

250 kD

150

100

75

50

37

25

20

15

10



Precision Plus Protein Unstained

Standard Plugs allow you to easily, quickly, and cleanly load molecular weight standards on any gel. The newest addition to the family of Precision Plus Protein standards, these ready-to-use standard plugs provide a convenient and reliable solution to molecular weight determination on 2-D electrophoresis gels. Specifically designed for use with PROTEAN Plus precast gels and other gels without a separate standards well, Precision Plus Protein unstained standards are cast in 1 mm thick agarose plugs for easy storage, handling, and loading. Load concentrations have been optimized for SYPRO, Ruby, Silver Stain Plus, and Bio-Safe Coomassie staining. Precision Plus Protein standard plugs come in an easy to use, snap-off plastic plug casing, in packs of 2 x 12 (24 applications), with one application per plug.

Product Description

Precision Plus Protein standard plugs contain ten recombinant protein bands of 10 kD, 15 kD, 20 kD, 25 kD, 37 kD, 50 kD, 75 kD, 100 kD, 150 kD, and 250 kD. The 25 kD, 50 kD, and 75 kD bands are three times the intensity of the other bands and serve as reference markers.

The molecular weights of Precision Plus Protein standard plugs, are confirmed by mass spectrometry and migration in a Laemmli SDS-PAGE system.

Precision Plus Protein standard plugs contain an integral *Strep*-tag sequence, enabling parallel detection on western blots using StrepTactin-HRP (catalog #161-0380) or StrepTactin-AP (catalog #161-0382).

Specifications

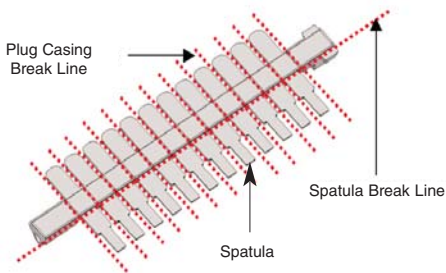
Catalog #	161-0378
Number of applications	24 plugs
Protein quantity	250 kD band, 540 ng; 150 kD band, 315 ng; 100 kD band, 225 ng; 75 kD band, 990 ng; 50 kD band, 1,100 ng; 37 kD band, 330 ng; 25 kD band, 1,200 ng; 20 kD band, 225 ng; 15 kD band, 300 ng; 10 kD band, 210 ng each*
	* These values should be used only to determine a rough approximation of the quantity of a protein of interest.
Plug buffer	1% agarose, 128 mM glycine, 10% (w/v) glycerol, 0.7% SDS, 62.5 mM Tris, pH 8.3, 50 mM DTT, 5 mM EDTA, 0.02% NaN ₃ , 0.003% Bromophenol Blue
Shelf life	3 months at 4°C

Instructions

Precision Plus Protein Standard Plugs are ready-to-use 2-D electrophoresis standards. When ready to use Precision Plus Protein standard plugs, break off one of the ends of the plastic plug casing. For each application, break off an individual plastic plug by placing pressure on the flat side to break the junction, then twisting the individual plug off.** Then break off the attached spatula. Prepare SDS-PAGE gels by blotting away any excess water remaining inside the IPG well using blotting paper. Then use the spatula to slide the plug outward and onto the top plate of your gel. Use the spatula to push the plug into the well next to the IPG strip. See Figures 1-8 for detailed illustrations of how to use the Precision Plus Protein standard plugs.

The Precision Plus Protein standard plugs have been optimized for 12% PROTEAN Plus gels. If you are using a gel of a different formulation, add 5% BME or 50 mM DTT to your overlay agarose.

Flat side of plastic plug casing



Recommended Loading Volumes for Large Gel Systems

Load	PAGE Application
Full plug	Coomassie Blue G-250 or R-250 staining
1/3 plug	Silver staining; SYPRO Ruby staining

**** Note: To store unused plugs, it is critical to wrap the open end of plastic plug casing tightly with Parafilm before storage to maintain integrity of the plugs.**



Fig. 1. Flat side of plastic casing with 12 Precision Plus Protein standard plugs, unstained.



Fig. 2. Break and **twist off** one end of the plastic plug casing.

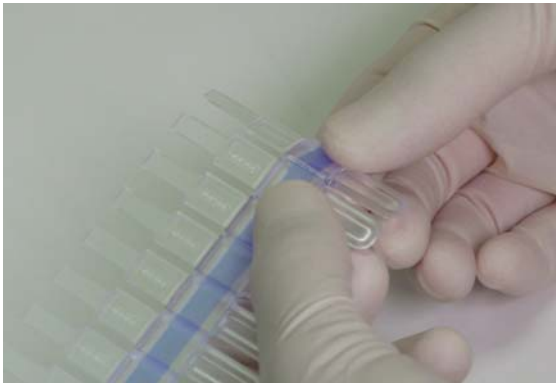


Fig. 3. Break off an individual plastic plug from the casing by placing pressure on the flat side to break the junction.

Study Fig. 3 and 4 carefully before proceeding.



Fig. 4. Complete the break by **twisting** off the individual plastic plug casing.



Fig. 5. Snap off the attached spatula.

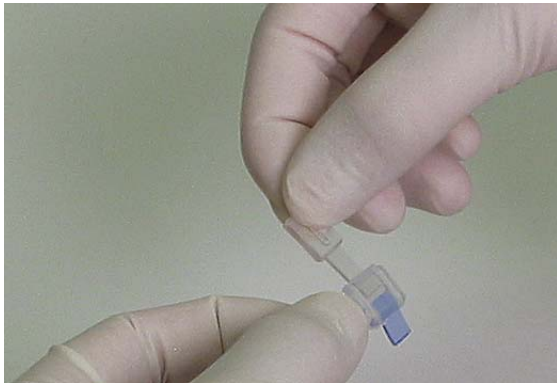


Fig. 6. Use spatula to push plug out of the plastic casing.



Fig. 7. Use the spatula to slide the plug outward and on to the top plate of your gel.

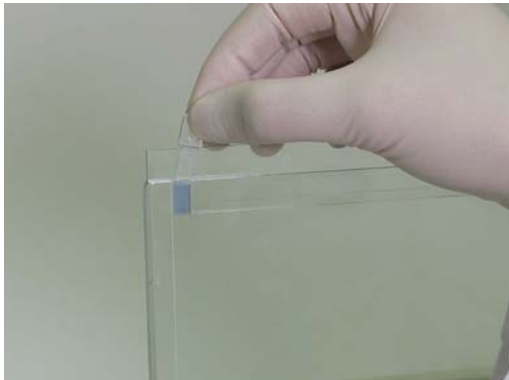


Fig. 8. Slide plug all the way down the bottom of the well next to IPG strip, then add agarose overlay.

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