

## Products for Electrophoresis

Catalog #	Description
161-0363	Precision Plus Protein Standards, unstained, 1,000 µl
161-0373	Precision Plus Protein Standards, all blue, 500 µl
161-0374	Precision Plus Protein Standards, dual color, 500 µl
161-0737	Laemmli Sample buffer, 30 ml
161-0786	Bio-Safe™ Coomassie Stain, 1 L

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**BIO-RAD**

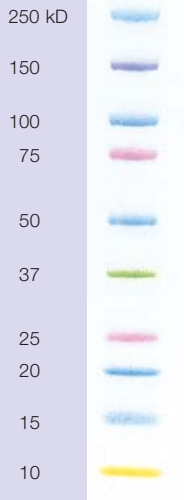
### Bio-Rad Laboratories, Inc.

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4110182 Rev D

### Representative lot of Precision Plus Protein™ Kaleidoscope™ prestained standards on a Criterion™ 4–20% Tris-HCl Gel



# Instruction Manual

## Precision Plus Protein™ Standards

### Kaleidoscope™

Catalog #161-0375

Product shipped at room temperature.

Store at -20°C upon arrival.

**BIO-RAD**

### The Precision Plus Protein Kaleidoscope standards

provide a 10-band, broad range recombinant ladder with multiple colors. These standards have five colors: a yellow 10 kD band, a green 37 kD band, a purple 150 kD band, pink 25 kD and 75 kD bands, and blue 15, 20, 50, 100, and 250 kD bands. The colors allow easy band referencing and blot orientation.

Ideal applications and uses for Precision Plus Protein Kaleidoscope standards:

Application:	Use:
Gel electrophoresis	Migration path monitoring during the run
Western blotting	Assessing transfer efficiency and estimating MW
Blot development	Visual reference of MW for proteins of interest

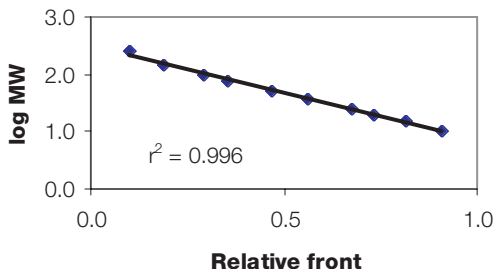
## Product Description

Precision Plus Protein Kaleidoscope standards contain ten recombinant protein bands of 10, 15, 20, 25, 37, 50, 75, 100, 150, and 250 kD.

Recombinant prestained protein standards are carefully engineered for precise and accurate molecular weights. The staining process has been optimized to guarantee the same electrophoretic molecular weight with each lot. Traditional prestained proteins, on the other hand, are blended from naturally occurring proteins. They have an inherent variability in the amount and location of dye that covalently binds to the protein; this produces diffuse, broader bands than those of the recombinant prestained standards and the resulting molecular weights vary from lot to lot.

## Molecular Weight Estimation

The molecular weights of Precision Plus Protein Kaleidoscope standards are confirmed by migration in a Laemmli SDS-PAGE system. Using Precision Plus Protein Kaleidoscope standards, the molecular weight of an unknown protein can be assessed at an accuracy of 95%. See Figure 1 below for an  $r^2$  plot. For electrophoretic determination of molecular weights at an accuracy of >95%, Precision Plus Protein standards, unstained (catalog #161-0363), should be used.



**Fig. 1.  $r^2$  plot for Precision Plus Protein Kaleidoscope standards determined on a Criterion 4–20% gel.  $r^2$  values >0.99 are typical for Precision Plus Protein Kaleidoscope standards.**

## Specifications

Catalog #	161-0375
Volume	500 $\mu$ l
Number of applications	50
Loading buffer	30% (w/v) glycerol, 2% SDS, 62.5 mM Tris, pH 6.8, 50 mM DTT, 5 mM EDTA, 0.02% NaN <sub>3</sub>
Shelf life	12 months at $-20^{\circ}\text{C}^*$  * If the product has been stored as directed for 12 months, its shelf life may be extended by adding dithiothreitol (DTT) to approximately 50 mM.
Total protein conc.	1.5 mg/ml

## Instructions for Use

Precision Plus Protein Kaleidoscope standards are provided in loading buffer, and are ready to load with no dilution required. Allow the tube to reach room temperature and thoroughly mix before use by inversion or vortexing. This will ensure that any solids that may have precipitated at  $-20^{\circ}\text{C}$  have returned to solution. Do not heat the product above room temperature. The product is stable from  $-70^{\circ}\text{C}$  to  $25^{\circ}\text{C}$ . The product has been denatured and exposure to temperatures over  $25^{\circ}\text{C}$  could result in protein degradation.

## Recommended Loading Volumes

Load Volume	Application
10 $\mu$ l	Mini gel electrophoresis
5 $\mu$ l	Mini gels to be blotted, to monitor transfer
20 $\mu$ l	Large gel electrophoresis