

## Reference

1. Laemmli, U. K., *Nature*, **227**, 680 (1970).

## Ordering Information

### Catalog

### Number    Product Description

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#### Prestained Standards

- 161-0324 **Kaleidoscope Prestained Standards**, 500  $\mu$ l
- 161-0325 **Kaleidoscope Polypeptide Standards**, 500  $\mu$ l
- 161-0305 **Prestained SDS-PAGE Standards**, low range, 500  $\mu$ l
- 161-0309 **Prestained SDS-PAGE Standards**, high range, 500  $\mu$ l
- 161-0318 **Prestained SDS-PAGE Standards**, broad range, 500  $\mu$ l

#### Molecular Weight Standards

- 161-0326 **Polypeptide SDS-PAGE Standards**, 200  $\mu$ l
- 161-0304 **SDS-PAGE Standards**, low range, 200  $\mu$ l
- 161-0303 **SDS-PAGE Standards**, high range, 200  $\mu$ l
- 161-0317 **SDS-PAGE Standards**, broad range, 200  $\mu$ l
- 161-0314 **Silver Stain SDS-PAGE Standards**, low range, 200  $\mu$ l
- 161-0315 **Silver Stain SDS-PAGE Standards**, high range, 200  $\mu$ l
- 161-0306 **Biotinylated SDS-PAGE Standards**, low range, 250  $\mu$ l
- 161-0311 **Biotinylated SDS-PAGE Standards**, high range, 250  $\mu$ l
- 161-0319 **Biotinylated SDS-PAGE Standards**, broad range, 250  $\mu$ l
- 161-0320 **2-D SDS-PAGE Standards**, 500  $\mu$ l

#### IEF Standards

- 161-0310 **IEF Standards**, pI range 4.45-9.6, 250  $\mu$ l
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*Bio-Rad Laboratories, 2000 Alfred Nobel Dr., Hercules, CA 94547*

LIT599 Rev E

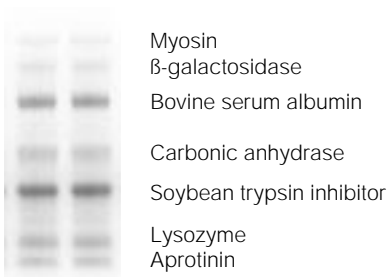
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# Kaleidoscope Prestained Standards

**Catalog Number**  
**161-0324**

Product shipped at room temperature.  
Store at -20 °C upon arrival.

**BIO-RAD**



**Fig. 1. Kaleidoscope Prestained Standards.** 5  $\mu$ l and 10  $\mu$ l of the standards were run on a 4-20% Ready Gel according to the method of Laemmli.<sup>1</sup> The gels were run on the Mini-PROTEAN® II cell and dried using the Model 583 Gel Dryer.



**Fig. 2. Kaleidoscope Prestained Standards and Prestained SDS-PAGE Standards.** Prestained standards were run on a 4-20% Ready Gel in the Mini-PROTEAN II cell according to the method of Laemmli.<sup>1</sup> The standards were then electrophoretically transferred to nitrocellulose using a Mini Trans-Blot® cell. **Lane 1**, 5  $\mu$ l high range Prestained SDS-PAGE Standards; **Lane 2** and **3**, 5  $\mu$ l Kaleidoscope Prestained Standards; **Lane 4**, 5  $\mu$ l low range Prestained SDS-PAGE Standards.

## Constituent Proteins

(See enclosed insert for lot specific calibrated molecular weights.)<sup>†</sup>

| Protein                   | Protein Color |
|---------------------------|---------------|
| Myosin                    | Blue          |
| β-galactosidase           | Magenta       |
| Bovine serum albumin      | Green         |
| Carbonic anhydrase        | Violet        |
| Soybean trypsin inhibitor | Orange        |
| Lysozyme                  | Red           |
| Aprotinin                 | Blue          |

<sup>†</sup> Covalently bound dye alters the molecular weight of the proteins and produces relatively broad bands. The molecular weights are calibrated from the center of each protein band.

3

Bio-Rad's Kaleidoscope Prestained Standards consist of seven uniquely colored proteins with molecular weight range of approximately 200,000–6,500 daltons. Dyes have been covalently attached to the standard proteins and will not dissociate during normal staining or destaining procedures. The proteins are provided in a stable aqueous solution. No reconstitution or further dilution is required before use.

## Applications

Bio-Rad's Kaleidoscope standards provide a quick and easy way to assess the quality of an electrophoretic transfer and act as a control in repetitive blotting experiments. Individual bands are easily identified by their unique colors, making it possible to monitor the separation of proteins while electrophoresis is in progress, even after the dye front has run off the gel. The standards can also be used to locate a protein for excision from an unstained preparative gel.

5

## Instructions for Use

Heat the solution to 40 °C for 1 minute to dissolve any solids which may have precipitated at -20 °C. To visualize Kaleidoscope standards after blotting, load 10 μl for full size gels (16-20 cm) and 5 μl for mini gels. To visualize the standards during electrophoresis, load 20 μl for full size gels and 10 μl for mini gels. To see the standards during the run, it is helpful to hold a sheet of white paper behind the gel.

**Note:** The prestaining of the proteins substantially inhibits them from being further stained with biotin/avidin systems, colloidal gold, Coomassie blue R-250, or amido black. The standards can be silver stained, but silver staining will result in broad bands because of the large amount of protein in the sample.

4

## Protein Molecular Weights

The molecular weights of every lot of Kaleidoscope standards are individually calibrated against Bio-Rad's SDS-PAGE Standards. The lot specific calibrated molecular weights are included with every vial. Kaleidoscope standards are useful for estimating the molecular weights of sample proteins, however, for precise molecular weight determinations, use Bio-Rad's SDS-PAGE, Silver Stain, or Biotinylated standards in addition to the prestained standards.

## Specifications

|                              |  |
|------------------------------|--|
| <b>Contents</b>              | Approximately 1.6 mg total protein in 33% (v/v) glycerol, 3% SDS, 10 mM Tris, pH 7.0, 10 mM DTT, 2 mM EDTA, 0.01% NaN <sub>3</sub> |
| <b>Storage</b>               | -20 °C   |
| <b>Shelf life</b>            | 1 year at -20 °C   |
| <b>Volume</b>                | 500 μl   |
| <b>Applications per vial</b> | 25–100   |

6