



## DIRECTIONS FOR USE

**Protein Molecular Marker  
High Range (code J449)**

**&**

**Protein Molecular Marker  
Mid/Low Range (code J450)**

- **Please read all directions carefully before using this product.**

Protein Molecular Marker High and Mid/Low Range are purified proteins that are used as standards in determining the molecular weight of unknown proteins run on SDS-polyacrylamide gel electrophoresis (SDS-PAGE). These markers will provide protein bands of approximately equal intensity when run on SDS-PAGE.

By calculating the log of the molecular weight of each known protein and plotting these numbers against the distances the proteins migrate in the gel, a standard curve is generated (Figure 1 and Figure 2). This curve is used to determine the molecular weight of unknown proteins.

Protein Molecular Marker High and Mid/Low Range are each provided at a concentration of 100 µg/ml and 120 µg/ml respectively, in a buffer of 30mM NaCl, 3mM sodium azide and 50% glycerol. Each vial contains 20 µg of each protein. Mix an equal volume of protein marker with protein gel loading dye (code E270-Q-0.5 ml) provided and heat to 95°C for 5 min. Protein loading dye (code E270-Q-0.5 ml) must have Dithiothreitol (DTT) added to a final concentration of 200mM before using. Load 5 µl of prepared protein marker per lane for minigels stained with Coomassie blue. For silver staining, dilute the markers 1:5, mix with an equal amount of protein gel loading dye (code E270-Q-0.5 ml) and load as described above.

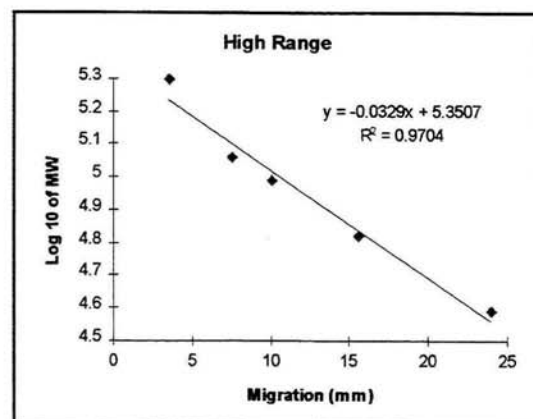


Figure 1. Molecular weight standard curve of Protein Molecular Marker High Range. Log<sub>10</sub> of protein molecular weights plotted against their migration distance. Markers were run on a 4-20% Precision PAGE gel.



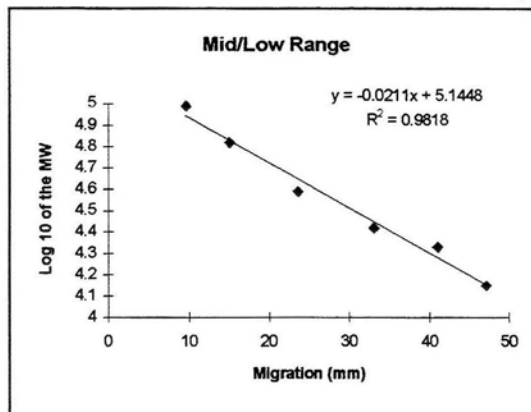


Figure 2. Molecular weight standard curve of Protein Molecular Marker Mid/Low Range.  $\text{Log}_{10}$  of protein molecular weights plotted against their migration distance. Markers were run on a 4-20% Precision PAGE gel.

A list of the proteins and recommended gel concentrations are described as follows:

**Protein Molecular Marker High Range (code J449)**

<u>Protein</u>	<u>Molecular Weight</u>
Myosin	200,000
$\beta$ -galactosidase	116,250
Phosphorylase B	97,400
Bovine Serum Albumin	66,200
Aldolase	39,200

*Recommended gel concentrations for Protein Molecular Marker High Range is 6-8% (Acryl/Bis 37.5:1)*

**Protein Molecular Marker Mid/Low Range (code J450)**

<u>Protein</u>	<u>Molecular Weight</u>
Phosphorylase B	97,400
Bovine Serum Albumin	66,200
Aldolase	39,200
Triose Phosphate Isomerase	26,600
Trypsin Inhibitor	21,500
Lysozyme	14,400

*Recommended gel concentrations for Protein Molecular Marker Mid/Low Range is 8-16% (Acryl/Bis 37.5:1)*

These markers are stable for one year from the date of purchase when stored at  $-20^{\circ}\text{C}$ .