

Low Molecular Weight(LMW) Protein Marker II,11-96 kDa

Catalogue number	Presentation
MB21401	3 x 500 µL (300 lanes)
MB21402	6 x 500 µL (600 lanes)

Description

The Low Molecular Weight Protein Marker II (LMW II) is a liquid mixture of eight purified proteins of molecular mass ranging from 11000 to 96000 Da, specially designed for protein molecular weight estimation through SDS-PAGE electrophoresis. Containing a dye for direct gel loading, it simplifies handling procedures and saves valuable time. The Low Molecular Weight Protein Marker II does not contain oligosaccharides that may cause anomalous migrations and heterogeneous fuzzy bands. The molecular mass of the protein under investigation is determined by comparing its electrophoretic mobility with that of proteins contained in the marker.

Shipping & Storage Conditions

This product can be shipped at a range of temperatures from dry ice to blue ice. After delivery, product should be stored at -85°C to -15°C. Stability studies conducted to Low Molecular Weight Protein Marker II confirmed its integrity maintenance after at least 20 freeze-thaw cycles. However, to ensure its sustained stability, it is strongly advisable to prepare and store small-volume aliquots of the marker at -85 to -15 °C. Low Molecular Weight Protein Marker II will remain stable till the expiry date if stored as specified.

Components

COMPONENT	MB21401 (300 lanes)		MB21402 (600 lanes)	
	TUBES	VOLUME	TUBES	VOLUME
Low Molecular Weight (LMW) Protein Marker II	3	500 µL	6	500 µL

Specifications

Size range: 11 kDa to 96 kDa

Number of bands: 8

Size of bands: 11 kDa, 18.5 kDa, 26 kDa, 32 kDa, 40 kDa, 48 kDa, 66 kDa, 96 kDa

Standard Protocol

- Thaw the marker at 37-40°C for a few minutes.
Note: An initial precipitate is normal due to the presence of SDS in the marker composition.
- Mix gently, but thoroughly, to ensure that the solution is homogeneous and clear.
- Heat the vial containing the marker at 95°C for 5 minutes to completely denature the protein contents.
Note: For subsequent uses, no additional heating is required; simply thaw the aliquots at room temperature and mix until the solution is homogeneous and clear.
- Chill on ice.
- Briefly centrifuge to spin down the contents.
- Load the following volumes of the marker on SDS-PAGE: 5 µL per well for mini-gel; 10 µL per well for large gels.
- Perform electrophoresis according to the instructions supplied with the gel apparatus being used. Stain the gel using appropriate staining solution, such as the BlueSafe (NZYtech, Cat. No. MB15201).

Technical Notes

Acrylamide

A range of 12-15% acrylamide SDS-PAGE gel concentration is recommended. This range allows for optimal resolution of protein bands within this size range during electrophoresis.

Molecular Weight determination

Measure the migration distance of the protein markers and of the protein(s) of interest. Measure the migration distance of the dye marker. Calculate the corresponding Rf values by dividing migration distance of the protein by migration distance of the dye marker. Construct a calibration curve by graphing Rf vs. log molecular weight for the proteins in the Low Molecular Weight Protein Marker II. Determine the molecular weight of the protein(s) of interest from the calibration curve.

Data

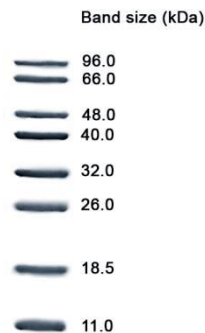


Figure 1. NZYtech LMW Protein Marker II stained with BlueSafe (NZYtech, Cat. No. MB15201). The gel was loaded with 5 μ L of LMW II standard per lane on a 14% Tris-glycine SDS-PAGE.

Quality control assays

Electrophoretic Pattern (Marker)

5 μ L of Low Molecular weight (LMW) Protein Marker II is electrophoresed in a 14% (v/v) Tris-glycine SDS-PAGE to check the intensity and the pattern of bands. It is expected to observe 8 regularly spaced bands as presented in Figure 1 above.

For life science research only. Not for use in diagnostic procedures.