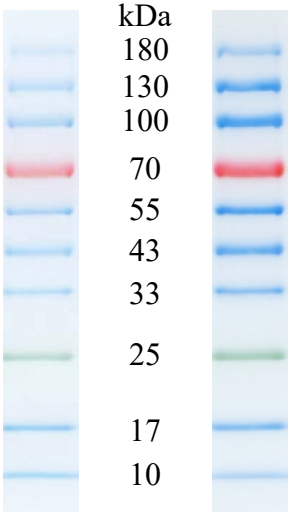
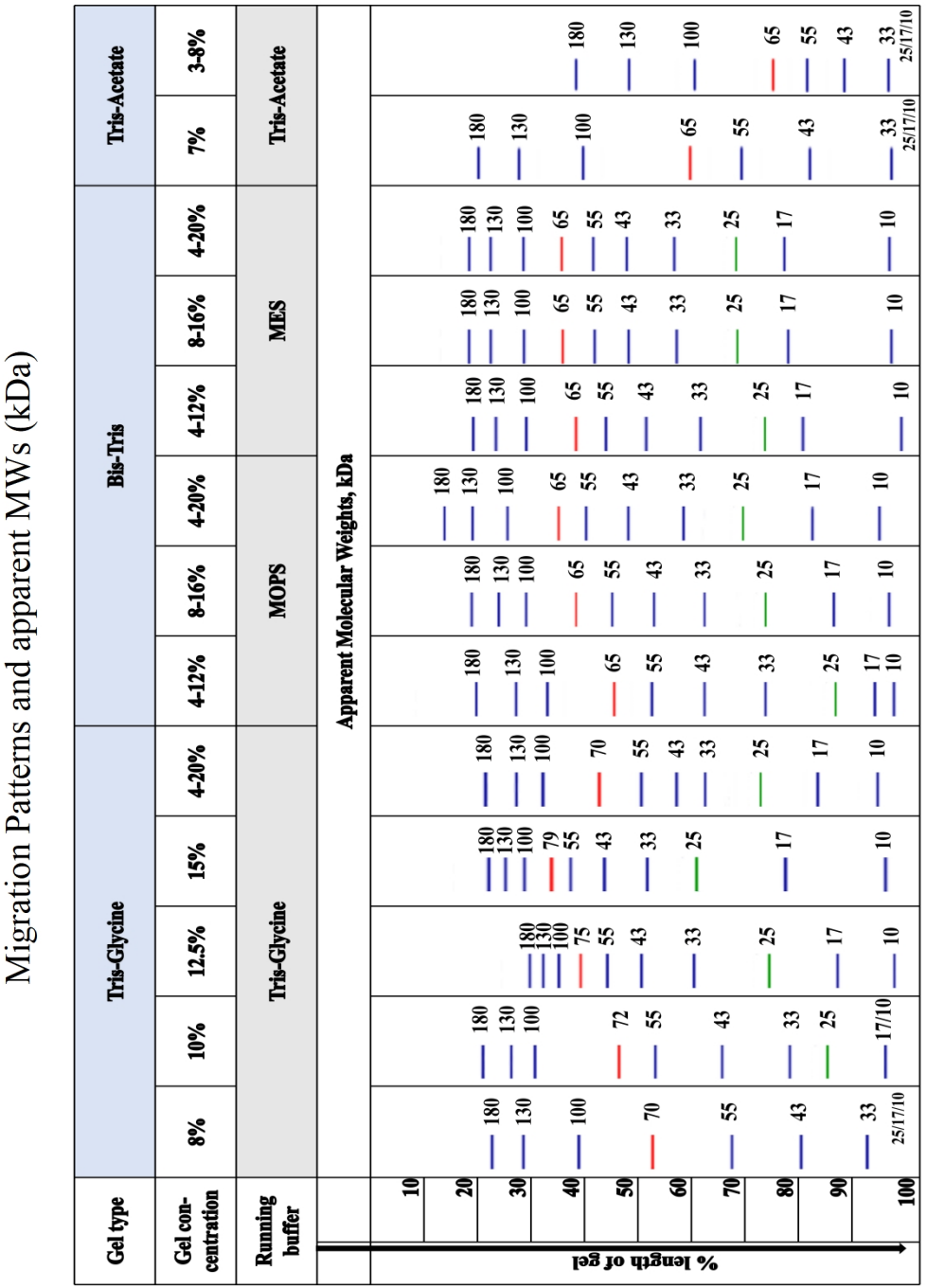
X-Biotech™ Pre-Stained Protein Ladder

Item	Specification
Cat. No.	X10129E
Package Size	2×250 μL
MW Range	10 – 180 kDa
Band Number	10
Storage	4°C for 2 months -20°C for 2 years
Shipping Condition	Shipped on ice packs (4-8°C).
Storage Buffer	20 mM Tris-PO_4 (pH 7.5), 2 mM EDTA •2 Na, 4 M Urea, 2 mM DTT, 1.5% (W/V) SDS, 15% (V/V) Glycerol, 0.1% (V/V) Proclin 300



Gel **3 μl** **Blot**

4-20% Tris-Glycine SDS-PAGE



1.Product Information

The X-biotech™ Pre-Stained Protein Ladder is a ready-to-use pre-stained mixture of 10 recombinant proteins ranging from 10 kDa to 180 kDa. It features the following key characteristics:

Pre-stained Design

Three different dyes are bound to the proteins, producing a brightly colored ladder. When separated by SDS-PAGE, most proteins exhibit a blue color, except for two reference bands: **70 kDa (orange-red) and 25 kDa (green)**.

Ready-to-Use Convenience

No additional steps (e.g., heating, dilution, or adding reducing agents) are required before use.

Molecular weight calibration Calibration

The indicated apparent molecular weights were calibrated against commercially available unstained protein standards under defined electrophoresis conditions.

Applications

1. Monitoring protein separation processes on SDS-PAGE.
2. Verifying Western blot transfer efficiency on membranes (PVDF or nitrocellulose membranes).
3. Approximating the molecular weight of target proteins on gels or blots.

Shipping Condition

Transport with ice packs (4-8℃).

Note: Upon receipt of the product, please store it at -20°C promptly.

2. Recommended Experimental Procedures

2.1 Thawing and Preparation

Thaw the ladder at room temperature until completely dissolved. Gently but thoroughly mix the solution to ensure homogeneity.

Critical Warning: Do not boil the product.

2.2 Recommended loading volumes

When performing SDS-PAGE, load an appropriate volume of the ladder on an SDS-PAGE gel for 0.75-1.0 mm thickness:

Mini gel electrophoresis: 5 µL per well

Large gel electrophoresis: 10 µL per well

Use the same volumes for Western blotting.

Double the loading volume for 1.5 mm thick gels.

3. Notes and Precautions

3.1 Electrophoresis-Related Notes

1. In gels with a concentration <10%, low-molecular weight proteins in the ladder may migrate with the dye front.
2. Western Blot for Large Proteins (>100 kDa):
   - ✧ Extend transfer time or increase transfer voltage to ensure complete transfer.
   - ✧ SDS in Transfer Buffer: It is recommended to avoid adding SDS. If necessary, the SDS concentration must not exceed 0.02-0.04%.
3. Pre-stained proteins may show different apparent molecular weights in different SDS-PAGE buffer systems. For accurate approximate molecular weight determination:
   - ✧ Calibrate with unstained protein ladder in the same buffer system .
   - ✧ Refer to the attached "Mobility Table" for migration patterns under different electrophoresis conditions.

3.2 Usage Restriction

For Research purposes and in vitro use only: Not for use in diagnostic or therapeutic procedures .

4.Migration Patterns and Apparent Molecular Weights (kDa)

The apparent molecular weights under different gel types, gel concentrations, and running buffer conditions can be referenced in the "Migration Patterns and approximate MWs (kDa) of X-Biotech™ Protein Ladders".

Consistent results start with high-quality reagents.

Explore our full range of electrophoresis solutions (Gel Preparation Kit, Running Buffers, Loading Buffers, Membrane Washing Buffers, Transfer Buffers, etc.) via our website or the QR code.