INSTRUCTIONS

# PageRuler™ Unstained High Range Protein Ladder

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26637

| Number | Description |
|---|---|
| **26637** | **PageRuler Unstained High Range Protein Ladder,** 2 × 250µL |

**Storage Buffer:** 62.5mM Tris•$H_3PO_4$ (pH 7.5 at 25°C), 1mM EDTA, 2% (w/v) SDS, 100mM DTT, 1mM $NaN_3$ 0.01% (w/v) bromophenol blue and 33% (v/v) glycerol.

**Storage:** Upon receipt store at -20°C. Product is shipped with an ice pack.

## Introduction

The Thermo Scientific PageRuler Unstained High Range Protein Ladder consists of a mixture of eight recombinant, purified proteins ranging from 60kDa to 250kDa. The ladder is visualized by SDS-PAGE using coomassie or silver stains or detected in Western blots with protein stains. For easy reference, the 150kDa protein band has a greater intensity than the other proteins in the ladder. The protein ladder is conveniently packaged and ready to use with no heating, diluting or additional reducing agent necessary.

## Important Product Information

- Do not boil the protein ladder.
- The large proteins (> 100kDa) in the ladder may require longer transfer times or higher transfer voltages for Western blotting.
- If additional bands appear in the protein ladder, add newly prepared dithiothreitol (DTT) solution to 100mM final concentration. DTT oxidation in the storage buffer can cause the appearance of additional bands.
- The amount of ladder can be reduced up to 10-fold for silver staining.

## Procedure for Using the Protein Ladder in Polyacrylamide Gel Electrophoresis

1. Thaw the ladder at room temperature. Do not boil the protein ladder solution.
2. Mix the solution gently and thoroughly to ensure it is homogeneous.
3. Load an appropriate volume of the ladder onto the gel.
   - Mini-gel: 5µL per well (0.75-1.0mm thick) or 10µL per well (1.5mm thick)
   - Midi gel: 10µL per well (0.75-1.0mm thick) or 20µL per well (1.5mm thick)

   **Note:** Dilute the ladder ~1/10 in reducing sample buffer for silver staining.
4. Return the unused protein ladder to -20°C for up to one year.

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## Related Products

Please see the website for a complete listing of protein gels and Western blotting products.

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| **26614** | **PageRuler Unstained Protein Ladder,** 2 × 250µL |
| **26616** | **PageRuler Prestained Protein Ladder,** 2 × 250µL |
| **26619** | **PageRuler Plus Prestained Protein Ladder,** 2 × 250µL |
| **26630** | **PageRuler Broad Range Unstained Protein Ladder,** 2 × 250µL |
| **26632** | **PageRuler Low Range Unstained Protein Ladder,** 2 × 250µL |
| **26634** | **Spectra™ Multicolor Broad Range Protein Ladder,** 2 × 250µL |
| **26625** | **Spectra Multicolor High Range Protein Ladder,** 2 × 250µL |
| **26628** | **Spectra Multicolor Low Range Protein Ladder,** 250µL |
| **LC5615** | **iBright™ Prestained Protein Ladder** |
| **XP00060BOX** | **Novex™ 6% Tris-Glycine Mini Gels, 10-well** (see thermofisher.com/proteingels for a complete listing) |
| **EA0375BOX** | **NuPAGE™ 3-8% Tris-Acetate Protein Gels, 10-well** (see thermofisher.com/proteingels for a complete listing) |
| **24615** | **Imperial™ Protein Stain,** 1L |
| **LC6060** | **SimplyBlue™ SafeStain** |
| **24612** | **Pierce Silver Stain Kit** |

### General References


Alegria-Schaffer, A., *et al*. (2009). Performing and optimizing Western blots with an emphasis on chemiluminescent detection. *Methods Enzymol* **463:**573-99.

Burnette, W.N. (1981). "Western blotting": electrophoretic transfer of proteins from sodium dodecyl sulfate – polyacrylamide gels to unmodified nitrocellulose and radiographic detection with antibody and radioiodinated protein A. *Anal Biochem* **112(2):**195-203.

Kurien, B.T. and Scofield, R.H. (2003). Protein blotting: a review. *J Imm Meth* **274:**1-15.

Laemmli, U.K. (1970). Cleavage of structural proteins during the assembly of the head of bacteriophage T4. *Nature* **227:**680-5.

Towbin, H., *et al.* (1979). Electrophoretic transfer of proteins from polyacrylamide gels to nitrocellulose sheets: procedure and some applications. *Proc Natl Acad Sci USA* **76:**4350-4.





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