INSTRUCTIONS

PageRuler™ Low Range Unstained Protein Ladder

Pub. No. MAN0011778
Rev. B.0
Pub Part No. 2162359.2

26632

Number	Description
26632	**PageRuler Low Range Unstained 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 with an ice pack.

Introduction

The Thermo Scientific PageRuler Low Range Unstained Protein Ladders are a mixture of seven recombinant proteins ranging from 5kDa to 100kDa and a synthetic peptide at 3.4kDa. This unstained ladder can be detected by coomassie or silver stains or in Western blots with protein stains. For easy reference, the 25kDa protein band is of greater intensity (see website for product images). The 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.
- In low-percentage gels (< 8%), low-molecular weight proteins (1-20kDa) may migrate with the dye front. Use high-percentage gels (>14%) to obtain well-resolved bands on low-molecular weight proteins
- Before coomassie or silver staining, fix proteins with 5% glutaraldehyde to preserve the low-molecular weight proteins in the ladder.
- For silver stain applications, dilute the protein ladder approximately 1/50 in reducing sample buffer.
- 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.

Procedure for Use in Polyacrylamide Gel Electrophoresis

1. Thaw the protein ladder at room temperature. Do not boil ladder.
2. Mix the tube gently and thoroughly to ensure that the solution is homogeneous.
3. Load an appropriate volume of the protein 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)
4. Return the unused protein ladder to -20°C.

Pierce Biotechnology 3747 N. Meridian Road | PO Box 117 Rockford, IL 61105 USA | (815) 968-0747 (815) 968-7316 fax | thermofisher.com

Related Products

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

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
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**
XP10200BOX	**Novex™ 10-20% Tris-Glycine Mini Gels, 10-well** (see thermofisher.com/trisglycine for a complete listing)
NW04120BOX	**Bolt™ 4-12% Bis-Tris Plus Gels, 10-well** (see thermofisher.com/bolt for a complete listing)
EC6625BOX	**Novex 10-20% Tricine Protein Gels, 10-well** (see thermofisher.com/tricine for a complete listing)
24615	**Imperial™ Protein Stain,** 1L
LC6060	**SimplyBlue™ SafeStain**

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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