

ELECTROPHORESIS

Precision Plus Protein™ Dual Xtra Standards

- Extended MW range from 2 to 250 kD offers the convenience of only having to buy one standard for all of your MW range needs
- 12 sharp, bright bands are great for monitoring electrophoresis, western transfer, and accurate MW estimation
- Mass spectrometric verification ensures accurate migration and MW estimation for consistency from lot to lot
- 9 blue and 3 pink reference bands promise easy orientation on gels and blots
- 2 kD band stands out from the dye front
- Dyes are naturally fluorescent for multiplexing applications

Extended-Range Prestained Standards for Monitoring Electrophoresis and Blotting, and for Fluorescent Multiplexing

New Extended-Range Protein Standards

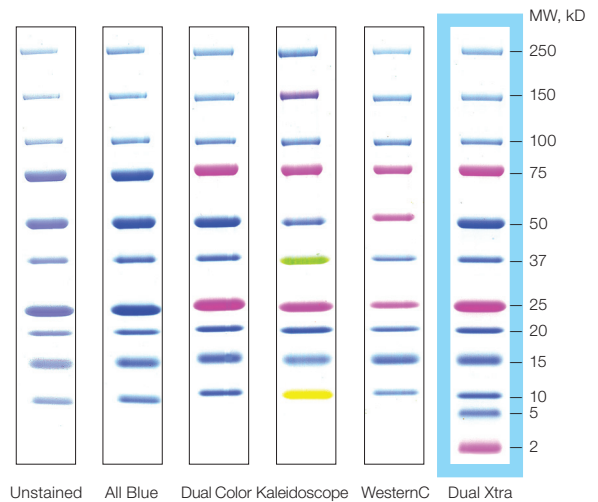
The Precision Plus Protein Dual Xtra standards have an extended MW range spanning from 2 to 250 kD. This extended range offers the convenience of only having to purchase, store, and use one standard for working with both broad and low MW ranges. Whether you are an individual who works with a varying range of proteins or are part of a lab whose members use proteins of different molecular weights, the Dual Xtra standard is a versatile option.

12 Bright, Sharp Bands

The Precision Plus Protein Dual Xtra standards have 12 bright, sharp, recombinant bands that make monitoring electrophoresis, western transfer, and MW estimation accurate and easy. Using Dual Xtra standards, the molecular weight of an unknown protein can be assessed at the accuracy of 95%. The nine blue and three pink reference bands permit straightforward orientation on gels and blots, allowing you to quickly assess MW and be confident about the orientation of your blot. In addition, the pink 2 kD band easily stands out from the dye front so there are no questions.

Family of Quality Standards

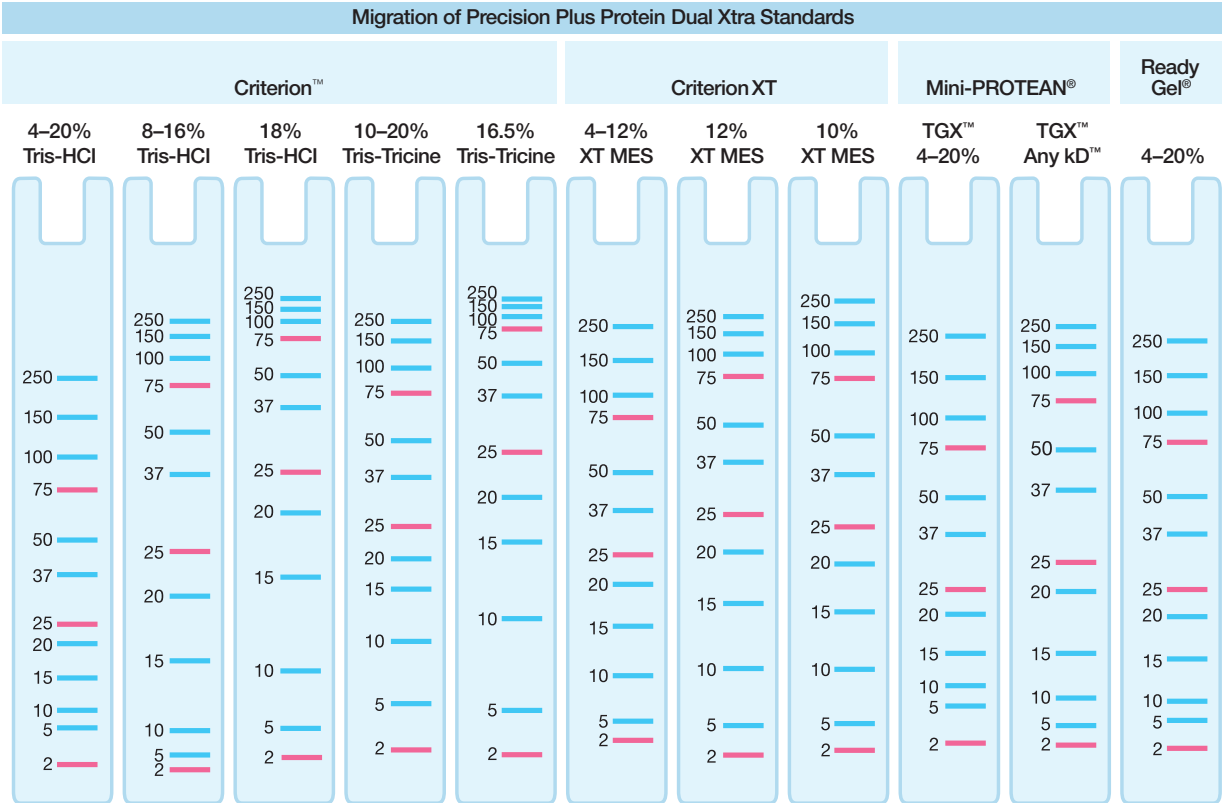
The Dual Xtra standards are a member of the Precision Plus Protein family of standards. In addition to balanced, bright, sharp bands, all of the Precision Plus Protein standards



The Precision Plus Protein standards family offers accurate and consistent protein standards for electrophoresis and western blotting experiments. Standards were run on a Criterion™ 4-20% Tris-HCl gel.

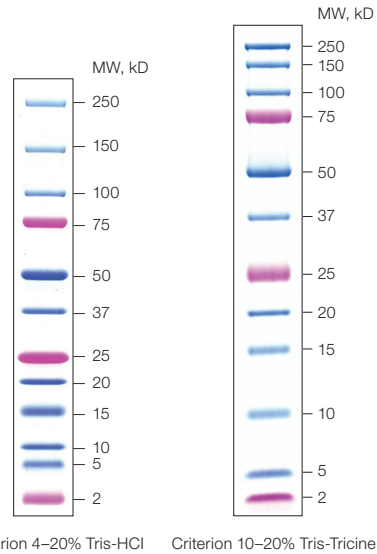
are verified by mass spectrometry, ensuring accurate MW estimation and consistent migration from lot to lot. The unstained and stained proteins have identical migration. This proprietary staining technique has been optimized to guarantee the same electrophoretic MW from lot to lot. The dyes used are naturally fluorescent so they can also be used for fluorescent multiplexing. The entire family shares the same migration pattern so there is no need to learn a new pattern when switching standards for different applications.

BIO-RAD



Linearity

The accuracy of calculated molecular weight for sample proteins is dependent on the linearity of the standard curve generated from the protein standard, represented by the R² value. Dual Xtra standards are linear on a range of gel types (R² >0.95). There is a strong linear relationship between the standard proteins' molecular weights and R_f values demonstrating the Dual Xtra standard's reliability for molecular weight estimation. See bulletin 5957 for more information about the Dual Xtra standard and bulletin 3144 for molecular weight determination.



A representative lot of Precision Plus Protein Dual Xtra standards on a Criterion 4–20% Tris-HCl gel and a Criterion 10–20% Tris-Tricine gel.

Specifications

Catalog #	161-0377
Volume	500 µl
Number of applications	50
Loading buffer	30% (w/v) glycerol, 2% SDS, 62.5 mM Tris, pH 6.8, 50 mM DTT, 5 mM EDTA, 0.02% NaNH ₃
Shelf life	Minimum 12 months at -20°C; if the product has been stored as directed for longer than 12 months, the shelf life may be extended by adding dithiothreitol (DTT) to 50 mM

Related Literature

Bulletin 2414	The Little Book of Standards
Bulletin 2998	Protein Standards Application Guide
Bulletin 5956	Precision Plus Protein Dual Xtra Standards — New Protein Standards with an Extended Range from 2 to 250 kD
Bulletin 3144	Using Precision Plus Protein Standards to Determine Molecular Weight
Bulletin 3133	Molecular Weight Determination by SDS-PAGE
Bulletin 5723	Increase Western Blot Throughput with Multiplex Fluorescent Detection
10018393	Precision Plus Protein Dual Xtra Instruction Manual
10018394	Precision Plus Protein Dual Xtra Migration Sticker

For more information on the Precision Plus Protein standards, visit www.bio-rad.com/pppstandards.

Purchase of Criterion XT Bis-Tris gels, XT MOPS running buffer, XT MES running buffer, XT MOPS buffer kit, and XT MES buffer kit is accompanied by a limited license under U.S. patents 6,143,154; 6,096,182; 6,059,948; 5,578,180; 5,922,185; 6,162,338; and 6,783,651 and corresponding foreign patents.

NOTICE TO PURCHASER: LIMITED LICENSE

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Ordering Information

Catalog #	Description
Precision Plus Protein Standards	
161-0377	Precision Plus Protein Dual Xtra Standards , 500 µl, 50 applications
161-0363	Precision Plus Protein Unstained Standards , 1 ml, 100 applications
161-0373	Precision Plus Protein All Blue Standards , 500 µl, 50 applications
161-0393	Precision Plus Protein All Blue Standards Value Pack , 2.5 ml, 250 applications
161-0374	Precision Plus Protein Dual Color Standards , 500 µl, 50 applications
161-0394	Precision Plus Protein Dual Color Standards Value Pack , 2.5 ml, 250 applications
161-0375	Precision Plus Protein™ Kaleidoscope™ Standards , 500 µl, 50 applications
161-0395	Precision Plus Protein Kaleidoscope Standards Value Pack , 2.5 ml, 250 applications
161-0385*	Precision Plus Protein™ WesternC™ Pack , 50 applications
161-0376	Precision Plus Protein WesternC Standards , 250 µl, 50 applications

* Each pack includes 250 µl of Precision Plus Protein WesternC standards and 125 µl of StrepTactin-HRP conjugate



**Bio-Rad
Laboratories, Inc.**

Life Science
Group

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Norway 23 38 41 30 **Poland** 48 22 331 99 99 **Portugal** 351 21 472 7700 **Russia** 7 495 721 14 04 **Singapore** 65 6415 3188 **South Africa** 27 861 246 723
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