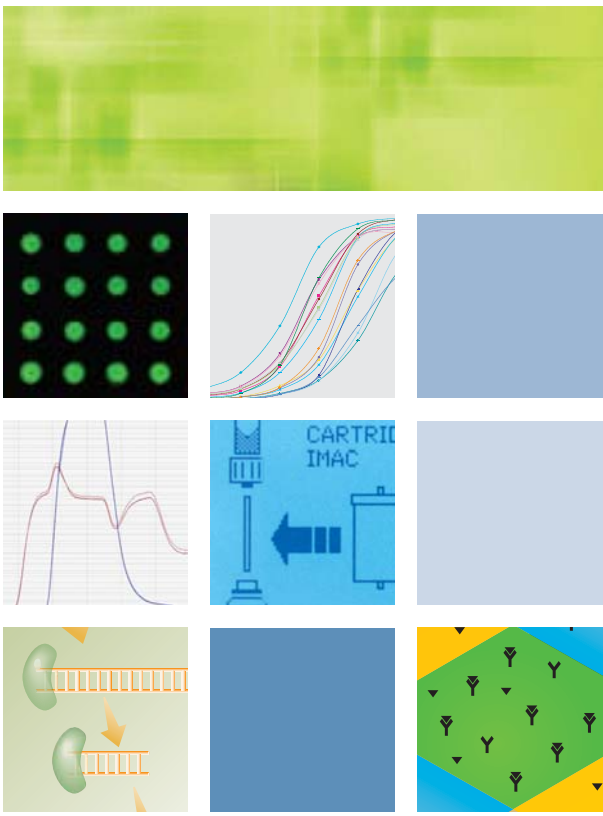
Life Science Group



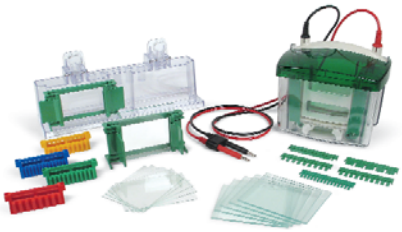
Precast Gel Electrophoresis Guide

BIO-RAD

Precast Gel Electrophoresis Guide

Analytical electrophoresis provides unparalleled resolution for applications ranging from purity assessments to analysis of complex mixtures. Bio-Rad produces a comprehensive line of equipment and reagents for analytical protein and nucleic acid electrophoresis in acrylamide gels.

Precast gel systems consist of precast gels and compatible electrophoresis cells, as well as optional related products such as blotting cells, power supplies, gel dryers, reagents, and buffers. Follow the tables below to find the system that's right for you.



	Ready Gel® system	Criterion™ Gel system	PROTEAN® II Ready Gel
Format	Mini	Midi	Large
Gel size	8.3 x 6.8 cm	13.3 x 8.7 cm	16 x 16 cm 18.3 x 19.3 cm
Gel type	Ready Gel	Criterion Gel Criterion XT Gel	PROTEAN II Ready Gel
Electrophoresis Cells	Mini-PROTEAN® Tetra Mini-PROTEAN 3* Mini-PROTEAN II* Mini-PROTEAN Dodeca™	Criterion Criterion Dodeca	PROTEAN II xi/XL
Blotting Cell	Mini Trans-Blot®	Criterion Blotter	Trans-Blot Trans-Blot SD

* Discontinued.

Bio-Rad offers the widest selection of precast gel systems to meet today's research needs:

- SDS-PAGE for protein or peptide analysis based on molecular weight
- 2-D gel electrophoresis
- Native PAGE for native protein analysis
- IEF for separation based on isoelectric point
- Zymogram for protease analysis
- Nucleic acid (dsDNA, ssDNA, and RNA) analysis

This brochure helps you to choose the best solution to match your needs, and also offers practical advice, plus reagent recipes and guides.

Choose the Best Chemistry for Your Sample

Acrylamide Percentage (%T)

Exact acrylamide concentration is critical to the success of electrophoretic separation. Acrylamide concentrations that are too high can lead to exclusion of high molecular weight molecules from the gel; concentrations that are too low can decrease the sieving effect. Use the protein and DNA migration charts below to select a gel with a %T that will provide optimal resolution of your sample.

Single-percentage gels

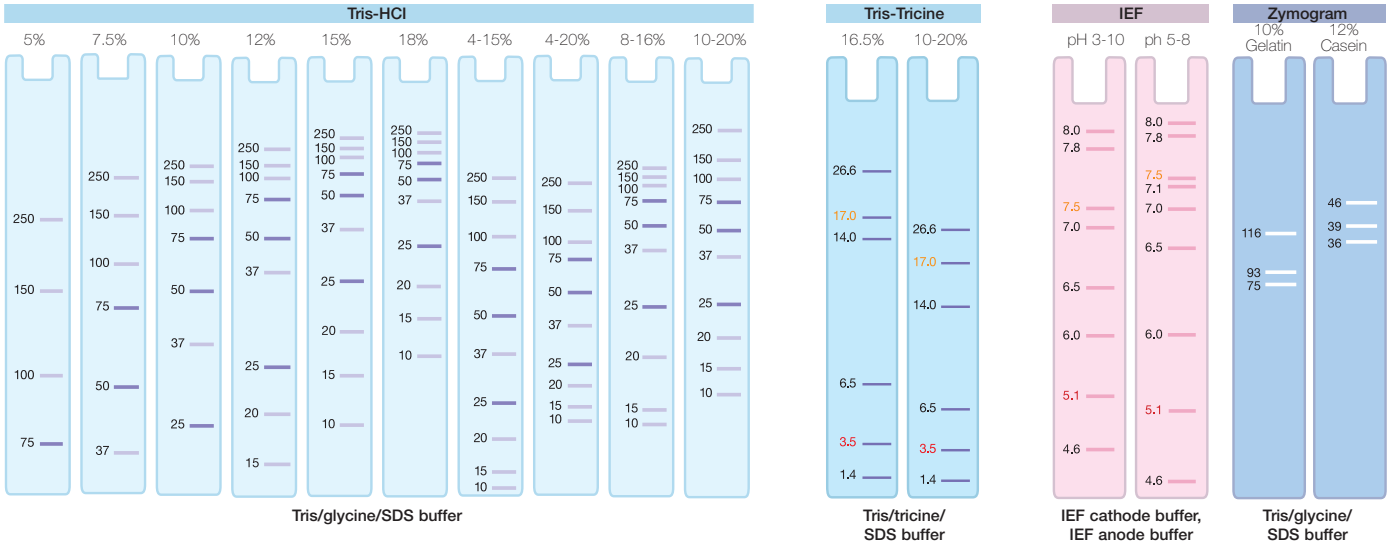
Choose a single-percentage gel when your sample has a limited size range of molecules and your goal is to separate a single band from neighbouring bands. In general, single-percentage gels will produce the greatest separation between bands with similar molecular weights. Single-percentage Tris-HCl, Bis-Tris, Tris-Acetate, Tris-Tricine, and Zymogram gels are cast with a 4% stacking gel to further sharpen protein bands before they enter the resolving gel.

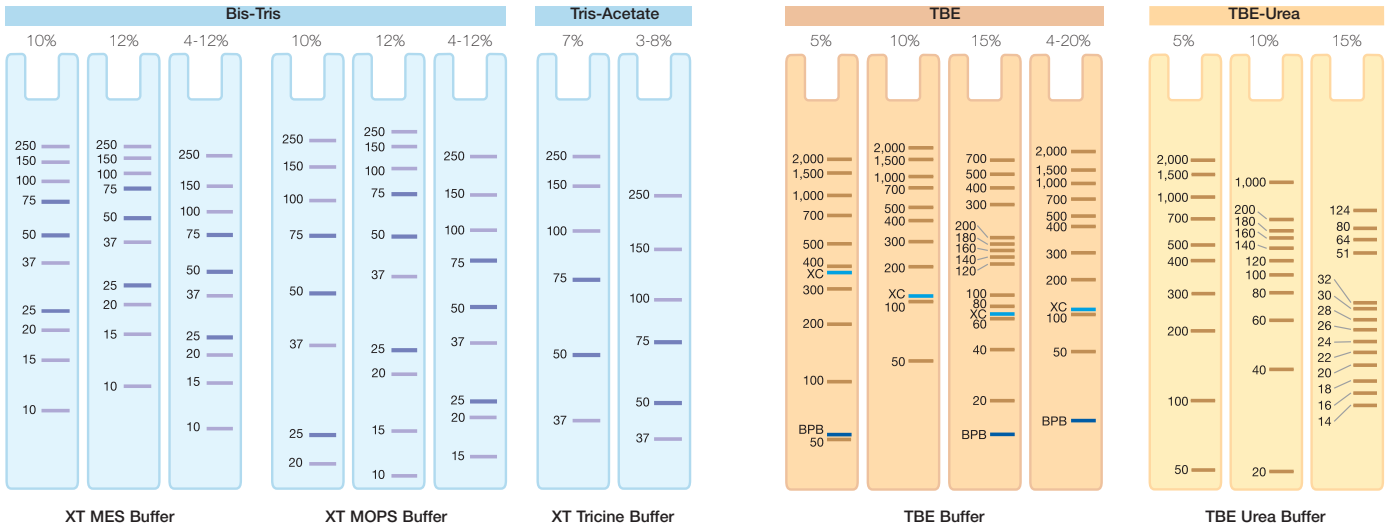
Gradient gels

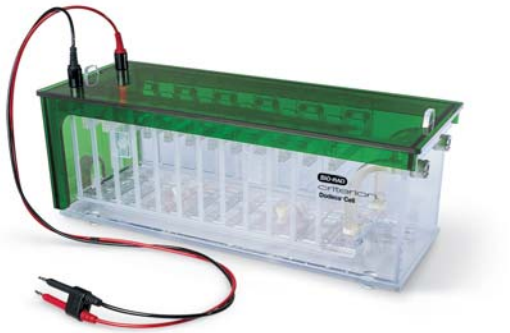
Choose a linear gradient gel if your sample contains a wide range of molecular weights. These gels allow both high and low molecular weight bands to be visualised on the same gel.

Crosslinker Percentage (%C)

Crosslinker percentage is the weight percentage of the crosslinker (bis-acrylamide). Along with the total monomer concentration or %T (acrylamide), %C determines the pore size of the gel. Crosslinker percentage can be adjusted to optimise pore size in order to deliver the best separation and resolution for the molecule of interest. Bio-Rad precast gels have a %C optimised for the best separation of molecules for their applications. Refer to the table below for the crosslinker percentage in Bio-Rad precast gels.







• Designed to be used with the Criterion cell and Criterion Dodeca Cell

Separate more samples in fewer runs

Using 12+2-, 18-, or 26-well combs, you produce more results on a single Criterion gel than on two standard mini gels, in only 45 minutes.

Resolve more proteins on every gel

With 60% more width and 25 % more separation distance, compared to mini gels, the Criterion separates more proteins. With its 11cm IPG comb, the Criterion system can provide more 2D spots on a single gel than any other midi 2D system, and allows you to perform the 2D process in under 24 hours.

Ultimate convenience and unsurpassed electrophoresis results

Gel formulas to fit your specific applications, and consistent quality and performance.

Higher throughput

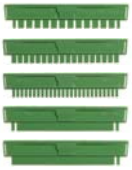
More samples separated in fewer runs.

Leak-free runs

A simple, yet smart, design that integrates the upper chamber into the gel cassette to prevent leakage.

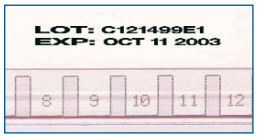
5 comb styles

3 multiple-well formats, an IPG+1 comb for 2-D electrophoresis, and a prep comb for large sample volumes.



Ease of loading

Wells are easy to spot, with outlined numbered wells and patented sample loading guides.



Printed information on each cassette

Catalogue number, lot number, expiration date, and gel type.

Safe and easy-to-open cassettes

Gel is opened in one quick motion using the built-in wedge on the Criterion cell lid.

Patented J-foot cassette design

Gel is lifted easily from the cassette and lies flat on filter paper, cellophane, or blotting membrane without the need for cutting or trimming.

Long life gels: Criterion XT





	12 wells 45 µl* + 2 ref. wells	18 wells 30 µl	26 wells 15 µl*	Prep. 800 µl + 2 ref. wells	For 11 cm IPG Strip + ref. well
Criterion XT Gels Bis-Tris, for small and mid size proteins - Stable up to 12 months at room temperature					
10 %	345-0111	345-0112	345-0113		345-0115
12 %	345-0117	345-0118	345-0119	345-0120	345-0121
4 - 12 %	345-0123	345-0124	345-0125	345-0126	345-0127
Criterion XT Gels Tris-Acetate for large proteins - Stable up to 8 months at 4°C					
7 %	345-0135	345-0136	345-0137		
3 - 8 %	345-0129	345-0130	345-0131		345-0133

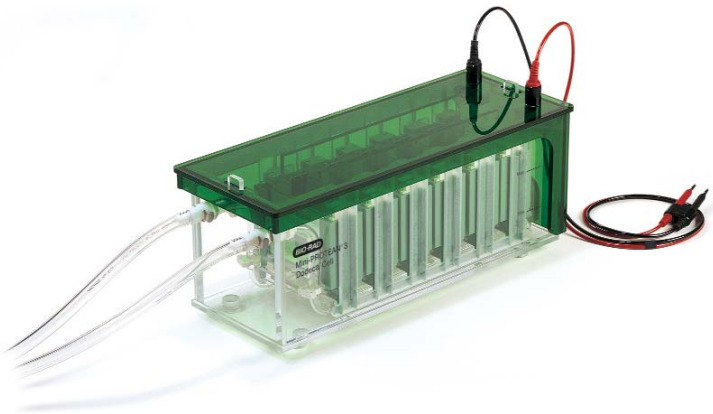
Criterion Gels (13.3 x 8.5 cm x 1 mm)

	12 wells 45 µl* + 2 ref. wells	18 wells 30 µl	26 wells 15 µl*	Prep. 800 µl + 2 ref. wells	For 11 cm IPG Strip + ref. well
Criterion Tris-HCl Glycine gels, for proteins					
5 %	345-0001	345-0002	345-0003		
7.5 %	345-0005	345-0006	345-0007	345-0008	
10 %	345-0009	345-0010	345-0011	345-0012	345-0101
12 %	345-0014	345-0015	345-0016	345-0017	345-0102
15 %	345-0019	345-0020	345-0021	345-0022	
18 %	345-0023	345-0024	345-0025	345-0026	
4 - 15 %	345-0027	345-0028	345-0029	345-0030	345-0103
4 - 20 %	345-0032	345-0033	345-0034	345-0035	345-0104
8 - 16 %	345-0037	345-0038	345-0039	345-0040	345-0105
10,5 - 14 %	345-9949	345-9950	345-9951		345-0106
10 - 20 %	345-0042	345-0043	345-0044	345-0045	345-0107
Criterion Tris-HCl Tricine gels, for peptides and small proteins					
16,5 %	345-0063	345-0064	345-0065	345-0066	
10 - 20 %	345-0067	345-0068	345-0069		
Criterion ZYMOGRAM gels, for protease detection					
10 % Gelatin	345-0079	345-0080	345-0081		
12,5 % Casein	345-0082	345-0083	345-0084		
Criterion IEF gels, for native isoelectrofocalisation without urea					
pH 3 - 10	345-0071	345-0072	345-0073		
pH 5 - 8		345-0076			
Criterion TBE gels, for nucleic acids					
5 %	345-0047	345-0048	345-0049		
10 %	345-0051	345-0052	345-0053		
15 %	345-0055	345-0056	345-0057		
4 - 20 %	345-0059	345-0060	345-0061		
Criterion TBE Urea gels, for single strand nucleic acids, DNA, RNA and nucleotides					
5 %		345-0086			
10 %	345-0088	345-0089	345-0090		
15 %	345-0091	345-0092	345-0093		

Conversion Table

Tris-HCl gels and Tris Glycine SDS buffer		Criterion XT gels at neutral pH	
Tricine/peptide	10-20%, 16.5%	Bis-Tris	10%, 12%, 4-12% MES buffer
Tris-HCl	12%	Bis-Tris	12% MOPS buffer
Tris-HCl	10%	Bis-Tris	10% MOPS buffer
Tris-HCl	15%, 4-15%, 4-20%	Bis-Tris	4-12% MOPS buffer
Tris-HCl	7.5%	Tris-Acetate	7% Tricine buffer
Tris-HCl	5%	Tris-Acetate	3-8% Tricine buffer

* Multichannel pipette compatible

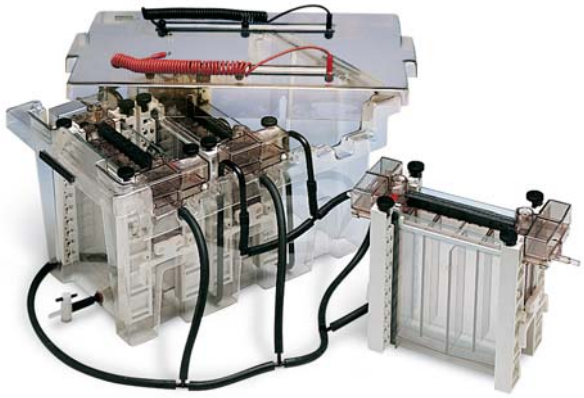


- Designed to be used in Mini-PROTEAN® cells : Mini-PROTEAN II cell, Mini-PROTEAN 3 cell, Mini-PROTEAN Tetra cell and Mini-PROTEAN Dodeca™ cell.
- Convenience of gradient gels for reproducible analysis over a wide range of molecular weights
- Quick set up of the Mini-PROTEAN cell in just seconds.
- Can be run in as little as 35 minutes.
- Provides consistent results with sharply resolved bands.

Ready Gels (8.3 x 6.8 cm x 1 mm)

	9 wells 30 µl*	10 wells 50 µl	10 wells 30 µl	12 wells 20 µl*	15 wells 15 µl	2D/Prep. 450 µl	IPG 7 cm Strip
Ready Gels Tris-HCl Glycine, for proteins							
5 %		161-1213	161-1210	161-1214	161-1211		
7,5 %		161-1154	161-1100	161-1172	161-1118	161-1136	
10 %	161-1191	161-1155	161-1101	161-1173	161-1119	161-1137	161-1390
12 %		161-1156	161-1102	161-1174	161-1120	161-1138	161-1391
15 %		161-1157	161-1103	161-1175	161-1121	161-1139	
18 %		161-1219	161-1216	161-1220	161-1217		
4 - 15 %	161-1194	161-1158	161-1104	161-1176	161-1122	161-1140	161-1392
4 - 20 %		161-1159	161-1105	161-1177	161-1123	161-1141	161-1393
8 - 16 %		161-1225	161-1222	161-1226	161-1223		161-1394
10 - 20 %		161-1160	161-1106	161-1178	161-1124	161-1142	161-1395
Ready Gels Tris-HCl Tricine, for peptides and small proteins							
16.5 %		161-1161	161-1107	161-1179	161-1125		
10 - 20 %		161-1162	161-1108	161-1180	161-1126		
Ready Gels ZYMOGRAM, for proteases detection							
10 % Gelatin		161-1167	161-1113	161-1185	161-1131		
12 % Casein		161-1168	161-1114				
Ready Gels IEF, for native isoelectrofocusing without urea							
pH 3 - 10		161-1165	161-1111		161-1129		
pH 5 - 8			161-1112				
Ready Gels TBE, for nucleic acids							
5 %		161-1163	161-1109	161-1181	161-1127		
10 %		161-1164	161-1110	161-1182	161-1128		
15 %			161-1228	161-1232	161-1129		
4 - 20 %		161-1237	161-1234		161-1235		
Ready Gels TBE Urea, for single strand nucleic acids, DNA, RNA and nucleotides							
5 %			161-1115		161-1133		
10 %			161-1116		161-1134		
15 %			161-1117	161-1189	161-1135		

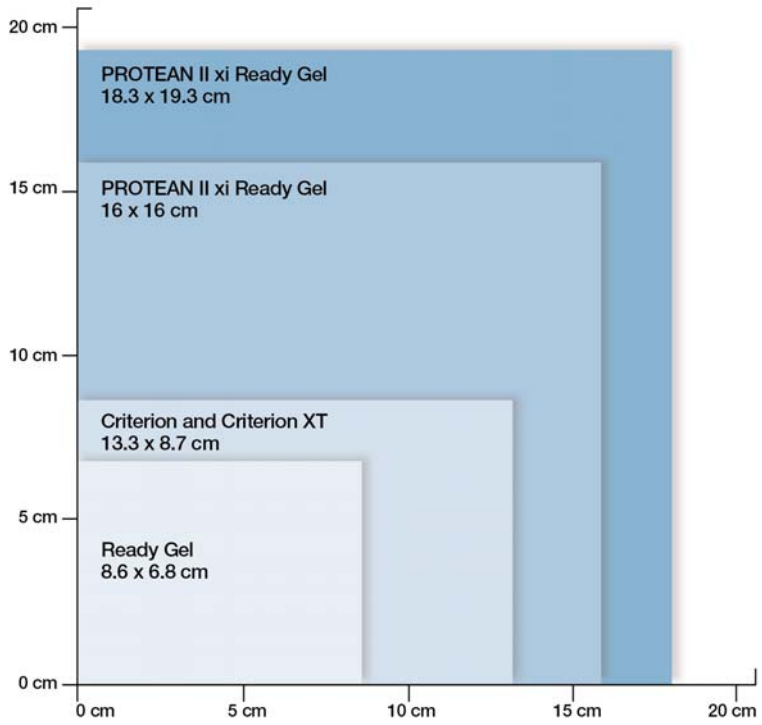
*Multichannel pipette compatible



- Designed to be used with PROTEAN II xi, XL and PROTEAN II xi and XL multi-cells.
- Convenient Ready Gel choice in homogeneous and gradient composition.
- Specific gels with 17-18 cm IPG strip wells for 2D electrophoreses applications.

PROTEAN II Ready Gels

	15 wells 65 µl Gels 16 x 16 cm x 1mm	20 wells 65 µl Gels 16 x 16 cm x 1.5mm	For IPG Strip 17-18 cm Gels 18.3 x 19.3 cm x 1mm
PROTEAN II Ready Gels Tris-HCl Glycine, for proteins			
10 %	161-1454	161-1458	161-1450
12 %	161-1455	161-1459	161-1451
8 - 16 %	161-1457	161-1461	161-1453
10 - 20 %	161-1456	161-1460	161-1452

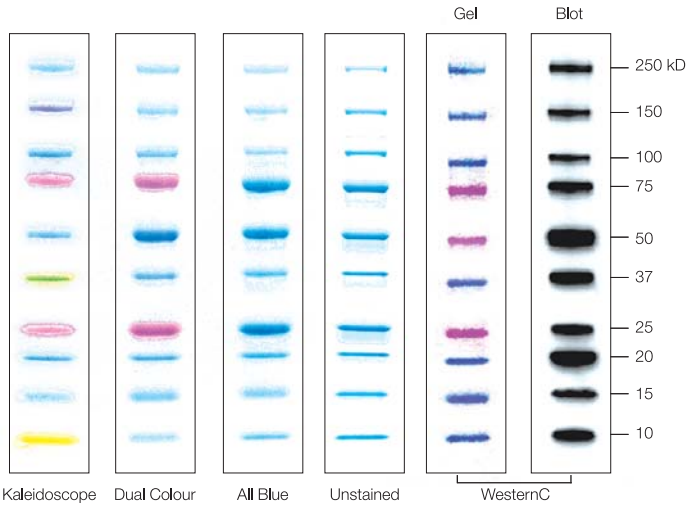


Calibrate your Gel with Molecular Weight Standards to Size your Separated Proteins

Standards are an integral part of every electrophoresis experiment because they help identify and characterise the molecules separated in a gel. Protein standards are available for SDS-PAGE, IEF, 2D, and western blotting. Two main families of standards are available: the Precision Plus Protein™ Standards, composed of recombinant proteins, and the natural protein standards.

Precision Plus Protein Standards

- Contains ten highly purified recombinant proteins in molecular masses from 10 to 250kD to uniformly cover the wide range of electrophoresis applications.
- Clean and sharp bands for accurate molecular weight estimation.
- Molecular weights confirmed by mass spectrometry.
- Proprietary staining technology that provides batch to-batch molecular weight consistency and reproducible electrophoretic migration.
- Shelf life of 1 year.
- Unstained and WesternC™ standards with a *Strep*-tag affinity peptide for detection and molecular weight determination on western blots.
- Include three high-intensity reference bands (25, 50, and 75 kD), except for the Kaleidoscope™, for easy band reference, especially if the dye front is run off the gel.
- Available as Unstained, All Blue, Dual Colour, Kaleidoscope and WesternC options.
- All five formats have the same molecular weight bands.
- Unstain Precision Plus standard in 1 mm thick agarose plug for easy and quick loading, even in 2D/preparative gel without reference well.



161-0363	Precision Plus Protein Unstained Standards, 1 ml, 100 applications
161-0373	Precision Plus Protein All Blue Standards, 500 µl, 50 applications
161-0374	Precision Plus Protein Dual Color Standards, 500 µl, 50 applications
161-0375	Precision Plus Protein Kaleidoscope Standards, 500 µl, 50 applications
161-0376	Precision Plus Protein WesternC Standards, 250 µl, 50 applications **(NEW)**
161-0380	Precision Protein StrepTactin-HRP Conjugate, 300 µl, 150 applications
161-0382	Precision Protein StrepTactin-AP Conjugate, 300 µl, 150 applications
161-0378	Precision Plus Protein Standard Plugs, unstained, 24 applications

Natural Prestained Standards

- SDS-PAGE standards are available in high, low, and broad molecular weight ranges, allowing calibration in almost any percentage gel.
- Prestained standards for SDS-PAGE and western blotting provide a quick and easy way to monitor protein separation during electrophoresis, and to assess transfer efficiency on blots. Each lot of Kaleidoscope and SDS-PAGE prestained standards is individually calibrated for estimating the molecular weight of sample proteins.

161-0303	SDS-PAGE Standards, high range, 200 µl
161-0304	SDS-PAGE Standards, low range, 200 µl
161-0317	SDS-PAGE Standards, broad range, 200 µl
161-0326	Polypeptide SDS-PAGE Standards, 200 µl
161-0315	Silver Stain SDS-PAGE Standards, high range, 200 µl
161-0314	Silver Stain SDS-PAGE Standards, low range, 200 µl
161-0309	Prestained SDS-PAGE Standards, high range, 500 µl
161-0305	Prestained SDS-PAGE Standards, low range, 500 µl
161-0318	Prestained SDS-PAGE Standards, broad range, 500 µl
161-0324	Kaleidoscope Prestained Standards, broad range, 500 µl
161-0325	Kaleidoscope Polypeptide Standards, 500 µl
161-0310	IEF Standards, 250 µl
161-0320	2-D SDS-PAGE Standards, 500 µl

Electrophoresis Buffers

Standardise your electrophoresis runs and save preparation time with liquid concentrate buffers.

Electrophoresis premixed running buffers

- Save on preparation time
- Made with high purity water and Bio-Rad's purity reagents, ensuring the highest quality
- The Cubed Solutions in 5-litre containers, offer tremendous economical and convenience advantages

Electrophoresis loading buffers

- Remove variables that cause lane-to-lane running anomalies
- No preparation is required, saves valuable time
- Available for numerous applications including native PAGE, SDS-PAGE, peptide analysis, analytical IEF, nucleic acid, denaturing and non-denaturing samples, and Zymogram gel sample preparations.

Tris-HCl Glycine gels, for proteins

Sample	Tris Glycine sample buffer	161-0738 : Native buffer, 30 ml
		161-0737 : SDS Laemmli buffer, 30 ml
Migration	Tris Glycine running buffer	161-0734 : Native buffer, 10X, 1 L
		161-0771 : Native buffer, 10X, 5 L
		161-0732 : SDS Laemmli buffer, 10X, 1 L
		161-0772 : SDS Laemmli buffer, 10X, 5 L

Tris-HCl Tricine gels, for peptides and small proteins

Sample	Tris Tricine sample buffer	161-0739 : 30 ml
Migration	Tris Tricine running buffer	161-0744 : 10X, 1 L

Bis-Tris gels, for small and mid size proteins

Sample	Sample buffer	161-0791 : 4X, 10 ml
	Tris(2-carboxyethyl)phosphine (TCEP)	161-0792 : 1 ml
Migration	Bis Tris/MOPS/LDS running buffer	161-0788 : 20X, 500 ml
	Bis Tris/MES/LDS running buffer	161-0789 : 20X, 500 ml
	Bis Tris buffer Kit I :	161-0793 : 500 ml Bis Tris/MOPS/LDS running buffer 20X, 10 ml Sample buffer 4X, 1 ml TCEP
	Bis-Tris buffer Kit II :	161-0796 : 500 ml Bis Tris/MES/LDS running buffer 20X, 10 ml Sample buffer 4X, 1 ml TCEP

Tris-Acetate gels, for large proteins

Sample	Sample buffer	161-0791 : 4X, 10 ml
	Tris(2-carboxyethyl)phosphine (TCEP)	161-0792 : 1 ml
Migration	Tris Tricine SDS running buffer	161-0790 : 20X, 500 ml
	Tris Acetate buffer Kit :	161-0797 : 500 ml Tris - Tricine SDS running buffer 20X, 10 ml Sample buffer 4X, 1 ml TCEP

ZYMOGRAM gels, for protease detection

Sample	Zymogram sample buffer	161-0764 : 30 ml
Migration	Zymogram running buffer	161-0732 : 10X, 1 L
		161-0772 : 10X, 5 L
Revelation	Zymogram renaturing buffer	161-0765 : 10X, 125 ml
	Zymogram development buffer	161-0766 : 10X, 125 ml

IEF gels, for native isoelectrofocusing without urea

Sample	IEF sample buffer	161-0763 : 30 ml
Migration	IEF anode buffer	161-0761 : 10X, 250 ml
	IEF cathode buffer	161-0762 : 10X, 250 ml

TBE gels, for nucleic acids

Sample	TBE sample buffer	161-0767 : 5X, 10 ml
Migration	TBE running buffer	161-0733 : TBE, 10X, 1 L
		161-0770 : TBE, 10X, 5 L

TBE Urea gels, for single strand nucleic acids, DNA, RNA and nucleotides

Sample	TBE Urea sample buffer	161-0768 : 2X, 30 ml
		161-0770 : TBE, 10X, 5 L

Preparation of Sample and Electrophoresis Buffers

	Sample buffer		Electrophoresis buffer 5X	
Tris-HCl SDS-PAGE gels	Reference 161-0737		Reference 161-0732	
	Deionised water	2.9 ml	Tris base	15.0 g
	0.5M Tris-HCl, pH 6.8	1.0 ml	Glycine	72.0 g
with ß-mercapto-ethanol	Glycerol	2.0 ml	SDS	5.0 g
	10% w/v SDS	1.6 ml	Adjust to 1 litre with water	
	ß-mercaptoethanol	0.4 ml	The pH should be at 8.3	
	1% Bromophenol blue	0.1 ml	Note : Do not adjust the pH of this buffer	
		8.0 ml		
	1 vol. sample / 2 vol. buffer	95°C 3 min		
Tris-HCl gels	Reference 161-0738		Reference 161-0734	
	Deionised water	4.9 ml	Tris base	15.0 g
Native-PAGE	0.5M Tris-HCl, pH 6.8	1.0 ml	Glycine	72.0 g
	Glycerol	2.0 ml	Adjust to 1 litre with water	
	1% Bromophenol blue	0.1 ml	The pH should be at 8.3	
		8.0 ml	Note : Do not adjust the pH of this buffer	
	1 vol. sample / 2 vol. buffer			
Tris-Tricine SDS-PAGE gels	Reference 161-0739		Reference 161-0744	
	0.5M Tris-HCl, pH 6.8	4.0 ml	Tris base	60.55 g
	Glycerol	3.0 ml	Tricine	89.60 g
with ß-mercapto-ethanol	10% w/v SDS	2.0 ml	SDS	5.0 g
	ß-mercaptoethanol	0.2 ml	Adjust to 1 litre with water	
	0.5% Coomassie G-250	0.8 ml	The pH should be at 8.25	
		10.0 ml	Note : Do not adjust the pH of this buffer	
	1 vol. sample / 2 vol. buffer	95°C 3 min		
Criterion XT gels at neutral pH	Reference 161-0791 and 161-0792		Migration buffer 20X	
			MES buffer for Bis-Tris gels	
	Sample buffer 4X	25 µl	for small proteins	reference 161-0789
	Reduction agent	5 µl		
	Sample	x µl	MOPS buffer for Bis-Tris gels	
	Qsp H2O	y µl	for mid size proteins	reference 161-0788
		100 µl		
			Tricine buffer for Tris-Acetate gels	
		95°C 3 min	for large proteins	reference 161-0790
Zymogram gels	Reference 161-0764		Reference 161-0732	
	Deionised water	2.15 ml	Tris base	15.0 g
without ß-mercapto-ethanol	0.5M Tris-HCl, pH 6.8	1.25 ml	Glycine	72.0 g
	Glycerol	2.50 ml	SDS	5.0 g
	10% w/v SDS	4.00 ml	Adjust to 1 litre with water	
	1% Bromophenol blue	0.10 ml	The pH should be at 8.3	
		10.0 ml	Note : Do not adjust the pH of this buffer	
	1 vol. sample / 2 vol. buffer	Do not heat !		
IEF gels	Reference 161-0763		Reference 161-0761 (anode) and 161-0762 (cathode)	
			Anodic buffer:	
	Glycerol 50 % (v/v)		Phosphoric acid	2.1 ml
			Adjust to 1 litre with water	
			Cathodic buffer:	
			Lysine (base free)	14.50 g
	1 vol. sample / 1 vol. buffer		Arginine (base free)	17.42 g
	Do not heat the sample !		Adjust to 1 litre with water	
TBE gels	Reference 161-0767		Reference 161-0733	
	Deionised water	0.24 ml	Tris base	54.0 g
Electrophoresis of nucleic acids in acrylamide or agarose	0.5M Tris-HCl, pH 8.0	0.10 ml	Boric Acid	27.5 g
	0.5M EDTA pH 8.0	0.01 ml	0.5M EDTA pH 8.0	20 ml
	Glycerol	0.25 ml	Adjust to 1 litre with water	
	1% Bromophenol blue	0.20 ml	The pH should be at 8.3	
	1% Xylene Cyanol	0.20 ml	Note : Do not adjust the pH of this buffer	
	4 vol. sample / 1 vol. buffer	1.0 ml		
TBE Urea gels	Reference 161-0768		Reference 161-0733	
TBE Ficoll	TBE buffer 10X	1.00 ml	Tris base	54.0 g
	Urea	4.2 g	Boric acid	27.5 g
	Ficoll	1.2 g	0.5M EDTA pH 8.0	20 ml
	1% Bromophenol blue	0.10 ml	Adjust to 1 litre with water	
	1% Xylene cyanol FF	0.20 ml	The pH should be at 8.3	
	Deionised water	qsp 10.0 ml	Note : Do not adjust the pH of this buffer	
	1 vol. sample / 1 vol. buffer			

Electrical Conditions

Mini Ready gels:

Tris-HCl gels with SDS : 200 V cst.
Amp/gel : 50 mA at start, 30 mA at the end
Run time : 35 min

Tris-Tricine gels : 100 V cst.
Amp/gel : 30/35 mA at start, 15/20 mA at the end
Run time : 100 min

Zymogram gels : 100 V cst.
Amp/gel : 10/15 mA at start, 6 mA at the end
Run time : 90 min

IEF Gels : 100 V cst. 1 hour
then 250 V cst. 1 hour
then 500 V cst. 30 min

Non denaturant TBE gels : 100 V cst.
Amp/gel : 13 mA at start, 11 mA at the end
Run time : 45/105 min

Denaturant TBE Urea gels : 200 V cst.
Amp/gel : 15 mA at start, 10 mA at the end
Run time : 40/70 min

Criterion™ gels:

Tris-HCl gels with SDS : 200 V cst.
Amp/gel : 90/120 mA at start, 35/55 mA at the end
Run time : 55 min

Tris-Tricine gels : 125 V cst.
Amp/gel : 140/150 mA at start, 60/70 mA at the end
Run time : 120 min

Zymogram gels : 125 V cst.
Amp/gel : 90/120 mA at start, 35/55 mA at the end
Run time : 90 min

IEF Gels : 100 V cst. 1 hour
then 250 V cst. 1 hour
then 500 V cst. 30 min

Non denaturant TBE gels : 100 V cst.
Amp/gel : 30/40 mA at start, 20/30 mA at the end
Run time : 90 min

Denaturant TBE Urea gels : 100 V cst.
Amp/gel : 60/80 mA at start, 40/60 mA at the end
Run time : 90 min

Criterion™ XT gels at neutral pH

Bis-Tris gels - MES buffer : 200 V cst.
Amp/gel : 185/200 mA at start, 90/110 mA at the end
Run time : 45 min

Bis-Tris gels - MOPS buffer : 200 V cst.
Amp/gel : 165/175 mA at start, 60/70 mA at the end
Run time : 60 min

Tris-Acetate gels - Tricine buffer : 150 V cst.
Amp/gel : 170/180 mA at start, 85/95 mA at the end
Run time : 65 min

Cst = constant

Staining

Proteins:

1. Staining solution : 30 min to 1 H

		[final]
Methanol	400 ml	40%
Acetic acid	100 ml	10%
Coomassie Blue R-250	1.0 g	0.1%
Deionized water	500 ml	

2. Destatining Solution : 2-3 H, change 3x

Methanol	400 ml
Acetic acid	100 ml
Deionized water	500 ml

Or BioSafe™ Coomassie G : rince first the gel 3 x 5 min with H2O

1. Staining solution : ready to use, ref. 161-0786 : 1 H

2. Destaining solution : H2O, 1 H to overnight, change 3x

Peptides:

1. Fixative solution : 30 min

		[final]
Methanol	400 ml	40%
Acetic acid	100 ml	10%
Deionized water	500 ml	

2. Staining solution : 1 H

Acetic acid	100 ml	10%
Coomassie Blue G-250	0.25 g	0.025%
Deionized water	900 ml	

3. Destaining solution : 45 min, change 3x

Acetic acid	100 ml
Deionized water	900 ml

Zymogram gels:

1. Renaturation : 30 min

	[final]
Triton X100	2.5%

2. Enzymatic development: 4 H to overnight, 37°C

		[final]
Tris-HCl 0.5M, pH 7.5	10 ml	50 mM
NaCl	1.169 g	200 mM
CaCl2 2H2O	73.5 mg	5 mM
Brij 35	20 mg	0.02%
Deionized water	90 ml	

3. Staining solution : 1 H

		[final]
Methanol	400 ml	40%
Acetic acid	100 ml	10%
Coomassie Blue R-250	5.0 g	0.5%
Deionized water	500 ml	

4. Destaining solution : 30-60 min, change 3x

Methanol	400 ml
Acetic acid	100 ml
Deionized water	500 ml

IEF gels:

1. Staining solution : 45 min

		[final]
Isopropanol	270 ml	27%
Acetic acid	100 ml	10%
Coomassie Blue R-250	0.4 g	0.04%
Cocreïn Scarlet	0.5 g	0.05%
Deionized water	630 ml	

2. Destaining solution : 2-3 H, change 3x

Methanol	400 ml
Acetic acid	100 ml
Deionized water	500 ml

Nucleic Acids:

Ready to use solution of BET ref. 161-0433 and Radiant red fluorescent RNA stain ref. 170-3122.

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