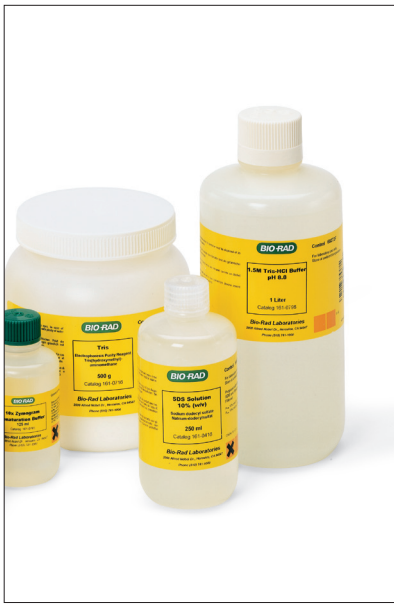
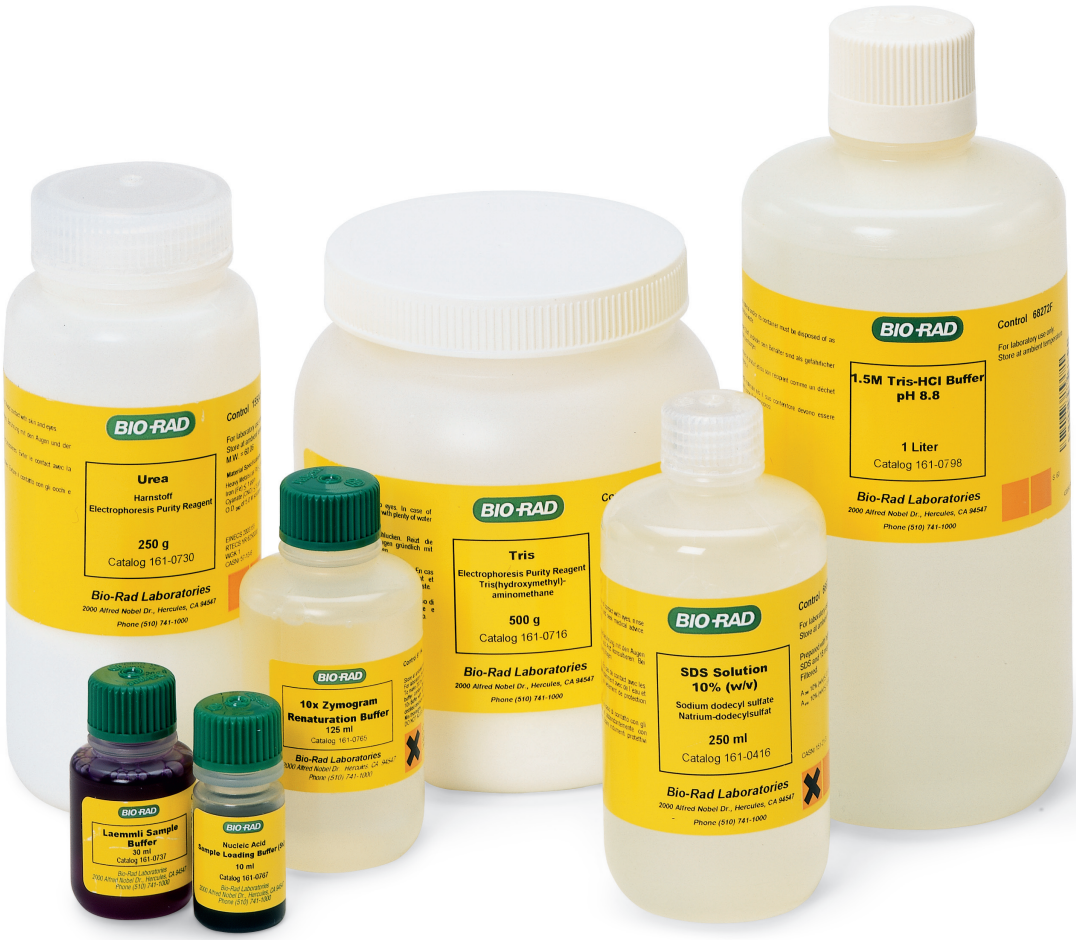


Ready-to-Run Buffers and Solutions

BIO-RAD



Bio-Rad is a premier provider of buffers and premixed reagents for life science research. We offer a variety of different products for all your protein and nucleic acid experiments. Whether you need powdered reagents or premixed solutions, Bio-Rad reagents meet the highest quality standards to ensure consistency and reliability in your experiments.

Electrophoresis Buffers

With premixed electrophoresis running buffers, you standardize your electrophoresis runs and save on preparation time, while avoiding mistakes in buffer concentration. Bio-Rad buffers are made with high-purity water and our own pure reagents, and are 0.4 µm filtered, ensuring the highest quality. Premixed buffers are available for a variety of protein and nucleic acid electrophoresis protocols. Our 5 L boxes offer tremendous economical and convenience advantages. They are compact and stackable to save benchspace, and are designed with an easy-pour spout.

Blot Processing Buffers

The processing of blots for protein and nucleic acid detection is now even simpler with a variety of premixed wash buffers and blocking solutions.

- Premixed blocking buffers, available as TBS/casein and PBS/casein, take the time and effort out of solubilizing casein
- Premixed wash buffers in TBS, PBS, and SSC reduce the number of stock solutions to prepare
- 10% Tween 20 makes pipetting accurate and simple

Protein Electrophoresis Buffers

Buffer	1x Formulation	Applications
10x Tris/glycine/SDS	25 mM Tris, 192 mM glycine, 0.1% SDS, pH 8.3	General SDS-PAGE
10x Tris/glycine	25 mM Tris, 192 mM glycine, pH 8.3	Native PAGE
10x Tris/Tricine/SDS	100 mM Tris, 100 mM Tricine, 0.1% SDS, pH 8.3	Peptide SDS-PAGE
10x IEF anode buffer	7 mM phosphoric acid	Analytical isoelectric focusing
10x IEF cathode buffer	20 mM lysine, 20 mM arginine	Analytical isoelectric focusing
10x zymogram renaturation buffer	2.5% Triton X-100	Protease analysis; renatures enzymes after electrophoresis
10x zymogram development buffer	50 mM Tris-HCl, pH 7.5, 200 mM NaCl, 5 mM $CaCl_2$, 0.02% Brij 35	Protease analysis; activates enzymes after electrophoresis
Nucleic Acid Electrophoresis Buffers		
10x TBE	89 mM Tris, 89 mM boric acid, 2 mM EDTA, pH 8.3	Nucleic acid electrophoresis/sequencing; polyacrylamide or agarose gels
10x TBE extended range	130 mM Tris, 45 mM boric acid, 2.5 mM EDTA	Nucleic acid electrophoresis/sequencing; polyacrylamide or agarose gels; extends the buffer capacity for longer DNA sequencing runs
50x TAE	40 mM Tris, 20 mM acetic acid, 1 mM EDTA, pH 8.0	Nucleic acid electrophoresis; polyacrylamide or agarose gels

Blot Processing Buffers

Buffer	1x Formulation	Applications
10x PBS	10 mM sodium phosphate, 150 mM NaCl, pH 7.4	Western blotting wash solution
10x TBS	20 mM Tris, 500 mM NaCl, pH 7.4	Western blotting wash solution, recommended when using alkaline phosphatase
1x PBS/1% casein	10 mM sodium phosphate, 150 mM NaCl, pH 7.4, containing 1% (w/v) casein	Western blotting blocking buffer; casein blockers recommended for all applications, including those with biotin-avidin complexes
1x TBS/1% casein	20 mM Tris, 500 mM NaCl, pH 7.4, containing 1% (w/v) casein	Western blotting blocking buffer; casein blockers recommended for all applications, including those with biotin-avidin complexes
20x SSC	150 mM sodium chloride, 15 mM sodium citrate, pH 7.0	Northern and Southern blotting prehybridization and hybridization solutions
Tween 20	10% w/v Tween 20 or 100% Tween 20	Blocking and wash buffer component

Sample Loading Buffers

Premixed loading buffers remove variables that cause lane-to-lane running anomalies, and since no preparation is required, you save valuable time as well. Bio-Rad premixed sample buffers are available for numerous applications, including native PAGE, SDS-PAGE, peptide analysis, analytical IEF, nucleic acid sample preparation (denaturing and nondenaturing), and zymogram gel sample preparation.

Blot Transfer Buffers

The transfer buffer must facilitate both effective elution from the gel matrix and effective binding of the protein or nucleic acid to the membrane. Determine your choice of buffer by the type of gel or membrane and the physical characteristics of the molecules of interest.

Sample Loading Buffers

Buffer	Formulation	Applications
Laemmli sample buffer	62.5 mM Tris-HCl, pH 6.8, 2% SDS, 25% glycerol, 0.01% Bromophenol Blue	SDS-PAGE
Native sample buffer	62.5 mM Tris-HCl, pH 6.8, 40% glycerol, 0.01% Bromophenol Blue	PAGE
Tricine sample buffer	200 mM Tris-HCl, pH 6.8, 2% SDS, 40% glycerol, 0.04% Coomassie G-250	Peptide analysis, small protein SDS-PAGE
IEF sample buffer	50% glycerol	Isoelectric focusing
Zymogram sample buffer	62.5 mM Tris-HCl, pH 6.8, 25% glycerol, 4% SDS, 0.01% Bromophenol Blue	Protease analysis
Nucleic acid sample buffer (5x)	50 mM Tris-HCl pH 8.0, 25% glycerol, 5 mM EDTA, 0.2% Bromophenol Blue, 0.2% Xylene Cyanol FF	Nondenaturing dsDNA
TBE-urea sample buffer	89 mM Tris-HCl, pH 8.0, 89 mM boric acid, 2 mM EDTA, 7 M urea, 12% Ficoll, 0.01% Bromophenol Blue, 0.02% Xylene Cyanol FF	Denaturing ssDNA, RNA

Western Blotting

Buffer	1x Formulation	Applications
10x Tris/glycine	25 mM Tris, 192 mM glycine, pH 8.3	**SDS-PAGE gels (tank or semi-dry blotting):** Add 20% methanol to remove SDS from the protein and improve its affinity for nitrocellulose **Native PAGE gels (tank blotting):** For acidic and neutral proteins, use Tris/glycine buffer without methanol
10x Tris/CAPS	60 mM Tris, 40 mM CAPS	**SDS-PAGE (semi-dry blotting only):** Discontinuous buffer system increases transfer efficiency; to Tris/CAPS buffer add 15% methanol for the anode buffer and 0.1% SDS for the cathode buffer
Southern/Northern Blotting		
50x TAE	40 mM Tris, 20 mM acetic acid, 1 mM EDTA, pH 8.0	Tank blotting of polyacrylamide gels
10x TBE	89 mM Tris, 89 mM boric acid, 2 mM EDTA, pH 8.3	Tank blotting or semi-dry blotting of polyacrylamide gels
20x SSC	150 mM sodium chloride, 15 mM sodium citrate, pH 7.0	Capillary transfer of agarose gels

If you don't find exactly what you need, simply contact your local Bio-Rad representative and inquire about custom-made buffers.

SDS Solutions

Detergents are employed in electrophoresis when it is necessary to disrupt protein-lipid or protein-protein interactions. SDS is the most common detergent used in PAGE analysis because most proteins are readily soluble in it. Bio-Rad SDS solutions are highly purified — an important feature, since impurities in SDS have unpredictable effects on electrophoretic mobilities.

Gel Casting Solutions

Tris Buffers and Acrylamide Solutions for Gel Casting

Bio-Rad offers a variety of prepared solutions for casting polyacrylamide gels. Tris solutions are formulated into working concentrations for preparing the stacking and resolving portions of native or SDS-PAGE gels, according to Laemmli or Ornstein-Davis discontinuous buffer systems. Acrylamide solutions are provided ready to use and come with instructions. High-purity reagents and carefully controlled manufacturing conditions allow acrylamide solutions to be stable for 1 year at 4°C.

Electrophoresis Buffer Reagents

In case you would like to prepare it all yourself, we offer a complete line of reagents. Our classic electrophoresis powder reagents are the ultimate in high quality.

SDS Solutions

Solution	Formulation	Applications
10% SDS solution	10% (w/v) sodium dodecyl sulfate	SDS-PAGE: for preparing sample, gel, and running buffers
20% SDS solution	20% (w/v) sodium dodecyl sulfate	Northern and Southern hybridization buffer component

Gel Casting Buffers

Solution	Applications
1.5 M Tris-HCl, pH 8.8	Resolving gel preparation
0.5 M Tris-HCl, pH 6.8	Stacking gel preparation
Acrylamide Solutions	
19:1 Acrylamide/Bis	DNA sequencing
29:1 Acrylamide/Bis	Protein separation
37.5:1 Acrylamide/Bis	Protein separation

Ordering Information

Catalog #	Description
Electrophoresis Running Buffers	
161-0732	10x Tris/Glycine/SDS, 1 L
161-0772	10x Tris/Glycine/SDS, 5 L cube
161-0734	10x Tris/Glycine, 1 L
161-0771	10x Tris/Glycine, 5 L cube
161-0744	10x Tris/Tricine/SDS, 1 L
161-0761	10x IEF Anode Buffer, 250 ml
161-0762	10x IEF Cathode Buffer, 250 ml
161-0765	10x Zymogram Renaturation Buffer, 125 ml
161-0766	10x Zymogram Development Buffer, 125 ml
161-0733	10x Tris/Boric Acid/EDTA (TBE), 1 L
161-0770	10x Tris/Boric Acid/EDTA (TBE), 5 L cube
161-0741	10x TBE Extended Range, 1 L
161-0743	50x Tris/Acetic Acid/EDTA (TAE), 1 L
161-0773	50x Tris/Acetic Acid/EDTA (TAE), 5 L cube
Blot Processing Buffers	
170-6435	10x TBS, 1 L
161-0780	10x PBS, 1 L
161-0783	1x PBS/1% Casein, 1 L
161-0782	1x TBS/1% Casein, 1 L
161-0774	20x SSC, 1 L
161-0775	20x SSC, 5 L cube
161-0781	10% Tween 20, 1 L
170-6531	Tween 20, 100 ml
Sample Loading Buffers	
161-0737	Laemmli Sample Buffer, 30 ml
161-0738	Native Sample Buffer, 30 ml
161-0739	Tricine Sample Buffer, 30 ml
161-0763	IEF Sample Buffer, 30 ml
161-0764	Zymogram Sample Buffer, 30 m
161-0767	Nucleic Acid Sample Buffer, 5x, 10 ml
161-0768	TBE-Urea Sample Buffer, 30 ml
Blotting Transfer Buffers	
161-0734	10x Tris/Glycine, 1 L
161-0771	10x Tris/Glycine, 5 L cube
161-0778	10x Tris/CAPS, 1 L
161-0743	50x TAE, 1 L
161-0773	50x TAE, 5 L cube
161-0733	10x TBE, 1 L
161-0770	10x TBE, 5 L cube
161-0774	20x SSC, 1 L
161-0775	20x SSC, 5 L cube

Catalog #	Description
SDS Solutions	
161-0416	SDS Solution, 10%, 250 ml
161-0418	SDS Solution, 20%, 1,000 ml
Buffer Reagents	
161-0716	Tris, 500 g
161-0719	Tris, 1 kg
161-0729	EDTA, 500 g
161-0717	Glycine, 250 g
161-0718	Glycine, 1 kg
161-0724	Glycine, 2 kg
161-0713	Tricine, 500 g
161-0730	Urea, 250 g
161-0731	Urea, 1 kg
161-0610	Dithiothreitol, 1 g
161-0611	Dithiothreitol, 5 g
161-0710	2-Mercaptoethanol, 25 ml
161-0301	SDS, 100 g
161-0302	SDS, 1 kg
Gel Casting Solutions	
161-0798	1.5 M Tris-HCl, pH 8.8, 1 L
161-0799	0.5 M Tris-HCl, pH 6.8, 1 L
161-0154	30% Acrylamide/Bis Solution 19:1, 500 ml
161-0156	30% Acrylamide/Bis Solution 29:1, 500 ml
161-0158	30% Acrylamide/Bis Solution 37.5:1, 500 ml
161-0144	40% Acrylamide/Bis Solution 19:1, 500 ml
161-0146	40% Acrylamide/Bis Solution 29:1, 500 ml
161-0148	40% Acrylamide/Bis Solution 37.5:1, 500 ml

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