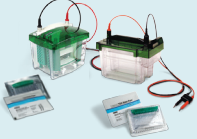

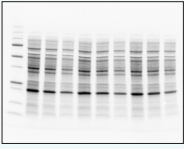

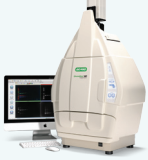


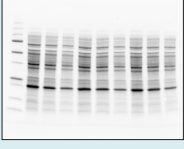

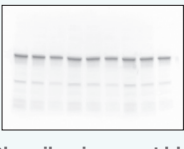

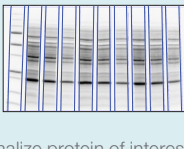


Bio-Rad® V3 Western Workflow™

Save time, identify problems earlier, and have more confidence in your western blot results.

Compared to conventional methods, the stain-free technology coupled with V3 Western Workflow allows you to generate western blot results faster with more reliability and accuracy.

Workflow	Benefit
<p>Electrophoresis</p> <p>1 </p>	<p>Run gels in as little as 15 min</p>
<p>Visualize protein separation</p> <p>2  </p> <p>Stain-free image of pre-transfer gel</p>	<p>Visualize separation for all lanes in 1 min</p> <ul style="list-style-type: none">▪ Coomassie-like performance with no background variability and no staining/destaining
<p>Transfer</p> <p>3 </p>	<p>Efficient and uniform protein transfer in 3 min</p> <ul style="list-style-type: none">▪ Throughput: transfer 4 mini-gels at once
<p>Measure transfer efficiency</p> <p>4  </p> <p>Stain-free image of post-transfer gel</p>	<p>Quickly assess transfer efficiency</p>
<p>Verify transfer efficiency</p> <p>5  </p> <p>Stain-free image of blot</p>	<p>Verify quality of transfer for all lanes in 2 min</p>
<p>Antibody incubation ~5 hr</p>	
<p>Blot detection</p> <p>6  </p> <p>Chemiluminescent blot</p>	<p>Detect protein of interest using Clarity™ western ECL substrate</p> <ul style="list-style-type: none">▪ Sensitive▪ Long signal duration
<p>Validate data by normalization and analysis</p> <p>7  </p> <p>Normalize protein of interest with stain-free image of blot from step 5</p>	<p>Use stain-free blot image as total protein loading control</p> <ul style="list-style-type: none">▪ No need to strip and reprobe▪ Use the entire protein in a lane (no need to rely on housekeeping proteins)▪ Reliable and accurate quantitation

FAQs

How does stain-free technology work?

The embedded compound in stain-free gels is activated by Bio-Rad imagers to provide a fluorescence signal sensitivity that is equivalent to Coomassie staining. Image stain-free gels, post-electrophoresis, with a Bio-Rad imager by selecting **stain-free gel** in Image Lab™ software.

How do total protein stains compare to normalizing with a housekeeping protein?

Advantages of total protein stains vs. housekeeping normalization include:

1. Housekeeping protein (HKP) expression may change depending on experimental conditions and sample type. Total protein is more stable and less prone to experimental conditions.
2. Total protein normalization using stain-free technology eliminates the need to strip and reprobe for housekeeping proteins. Stripping and reprobing for HKP is a very time consuming process, adding hours to detection, whereas stain-free total protein detection can be done in minutes.
3. Compared to housekeeping proteins, total protein stains exhibit superior linearity and reproducibility.

How does stain-free fluorescence compare to other total protein stains for blots?

Stain-free technology provides higher detection sensitivity and a wider linear dynamic range than available total protein stains. Stain-free technology eliminates staining and destaining manipulation, ensuring proteins remain intact from gel to membrane. Other total protein stains, including Ponceau S and SYPRO Ruby, can introduce errors in the staining/destaining procedure.

What resources are available?

Tips on normalization with stain-free technology are available at www.bio-rad.com.

Bulletin 6434	Western Blot Normalization Using Image Lab Software
Bulletin 6390	General V3 Western Workflow Blotting Protocol
Bulletin 6360	A Method for Greater Reliability in Western Blot Loading Controls: Stain-Free Total Protein Quantitation
Bulletin 6351	V3 Stain-Free Technology Publications

Tips for good quantitative western blotting are available at www.bio-rad.com.

Bulletin 2895	Protein Blotting Guide
www.bio-rad.com/tech/westernblotdoctor	

Ordering Information

Catalog # Description

Protein Standards

161-0373	Precision Plus Protein™ All Blue Standards
161-0363	Precision Plus Protein Unstained Standards
161-0385	Precision Plus Protein™ WesternC™ Pack

Buffers

161-0732	10x Tris/Glycine/SDS
161-0747	4x Laemmli Sample Buffer

Electrophoresis Cell

165-6001	Criterion™ Cell , includes electrophoresis buffer tank, lid with power cables, 3 sample loading guides
165-8004	Mini-PROTEAN® Tetra Cell for Mini Precast Gels , 4-gel vertical electrophoresis system, includes electrode assembly, companion running module, tank, lid with power cables, mini cell buffer dam

Blotting System

170-4155	Trans-Blot® Turbo™ Starter System , blotting instrument, includes base, 2 cassettes to hold 1–2 midi or up to 4 mini blotting sandwiches, blot roller, and starter consumable kit
170-4156	Trans-Blot Turbo Transfer Pack , mini, PVDF, pkg of 10
170-4157	Trans-Blot Turbo Transfer Pack , midi, PVDF, pkg of 10
170-4158	Trans-Blot Turbo Transfer Pack , mini, nitrocellulose, pkg of 10
170-4159	Trans-Blot Turbo Transfer Pack , midi, nitrocellulose, pkg of 10
170-4270	Trans-Blot Turbo RTA Transfer Kit , mini, nitrocellulose
170-4271	Trans-Blot Turbo RTA Transfer Kit , midi, nitrocellulose
170-4272	Trans-Blot Turbo RTA Transfer Kit , mini, PVDF
170-4273	Trans-Blot Turbo RTA Transfer Kit , midi, PVDF
170-4274	Trans-Blot Turbo RTA Transfer Kit , mini, LF PVDF
170-4275	Trans-Blot Turbo RTA Transfer Kit , midi, LF PVDF


Imaging Systems

170-8195	Gel Doc™ XR+ System with Image Lab Software , PC or Mac, includes darkroom, UV transilluminator, epi-white illumination standard filter, camera, cables, Image Lab software
170-8265	ChemiDoc™ XRS+ System with Image Lab Software , PC or Mac, includes darkroom, UV transilluminator, epi-white illumination standard filter, camera, power supply, cables, Image Lab software


Detection Reagents

170-5060	Clarity Western ECL Substrate , 200 ml
170-5061	Clarity Western ECL Substrate , 500 ml

TGX Stain-Free™ Precast Gels

Description						
	8+1-Well 30 µl	10-Well 30 µl	10-Well 50 µl	12-Well 20 µl	15-Well 15 µl	IPG Well 7 cm IPG Strip
Mini-PROTEAN TGX Stain-Free Precast Gels						
7.5% Resolving Gel	456-8029	456-8023	456-8024	456-8025	456-8026	456-8021
10% Resolving Gel	456-8039	456-8033	456-8034	456-8035	456-8036	456-8031
12% Resolving Gel	456-8049	456-8043	456-8044	456-8045	456-8046	456-8041
4–15% Resolving Gel	456-8089	456-8083	456-8084	456-8085	456-8086	456-8081
4–20% Resolving Gel	456-8099	456-8093	456-8094	456-8095	456-8096	456-8091
8–16% Resolving Gel	456-8109	456-8103	456-8104	456-8105	456-8106	456-8101
Any kD Resolving Gel	456-8129	456-8123	456-8124	456-8125	456-8126	456-8121

All formats are available in 10-packs (catalog numbers listed) or 2-packs (add an "S" to the end of the catalog number listed).

Description					
	12+2-Well* 45 µl	18-Well 30 µl	26-Well 15 µl	Prep+2-Well* 800 µl	IPG+1-Well* 11 cm IPG Strip
Criterion TGX Stain-Free Precast Gels**					
7.5% Gel	567-8023	567-8024	567-8025	—	—
10% Gel	567-8033	567-8034	567-8035	—	—
12% Gel	567-8043	567-8044	567-8045	—	—
18% Gel	567-8073	567-8074	567-8075	567-8072	567-8071
4–15% Gel	567-8083	567-8084	567-8085	567-8082	567-8081
4–20% Gel	567-8093	567-8094	567-8095	567-8092	567-8091
8–16% Linear Gradient	567-8103	567-8104	567-8105	567-8102	567-8101
10–20% Linear Gradient	567-8113	567-8114	567-8115	567-8112	567-8111
Any kD Gel	567-8123	567-8124	567-8125	567-8122	567-8121

* Reference wells accommodate 15 µl of markers/standards.

** Criterion TGX Stain-Free gels are sold as a single gel

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