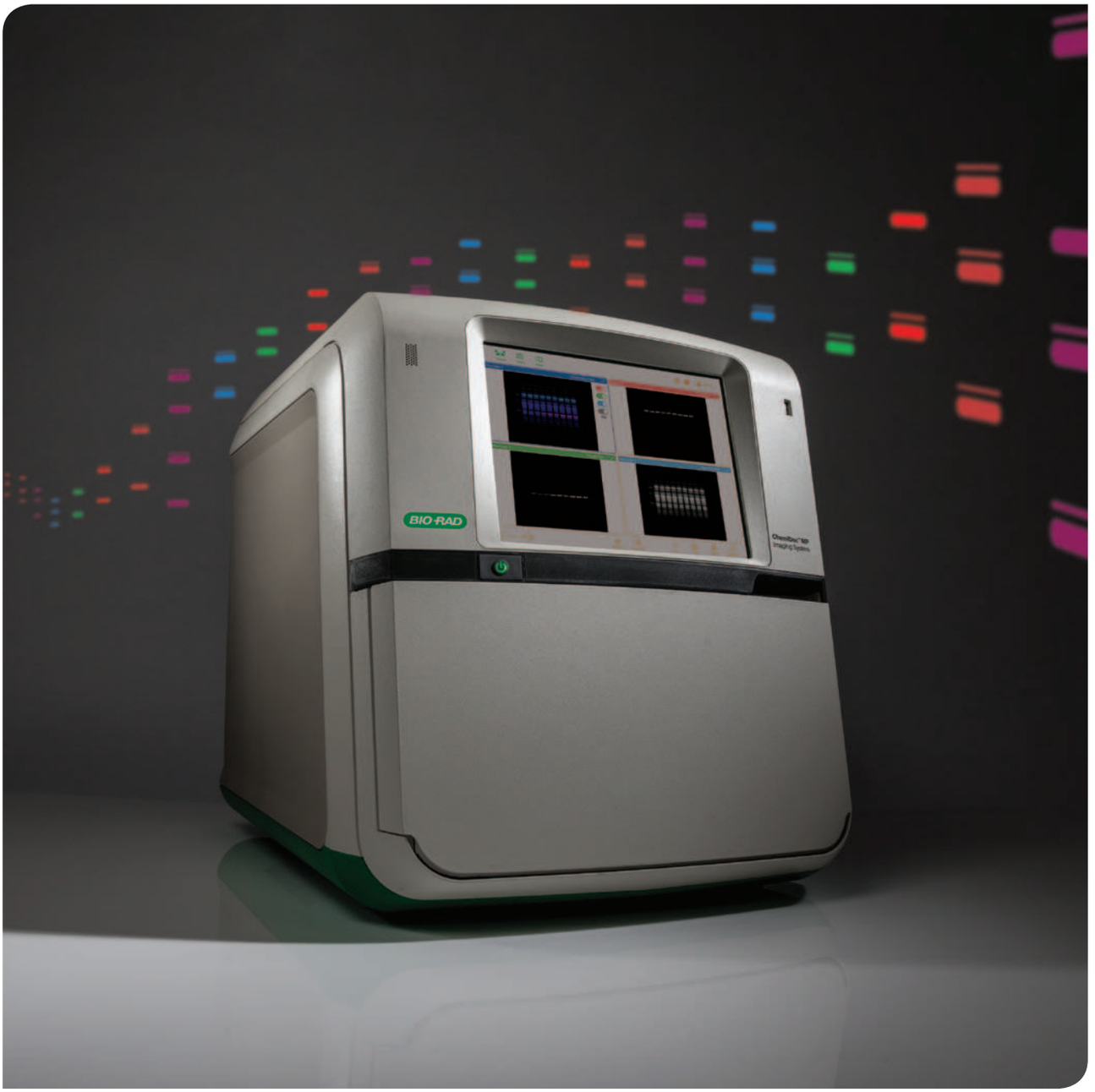


ChemiDoc™ and ChemiDoc MP Imaging Systems

Fluorescence and chemiluminescence detection without compromises.

BIO-RAD

High-Performance Imaging

As sensitive as film, with advanced blot detection technology to determine best exposure for faint and intense bands

Easy Acquisition Features

Includes image preview, auto-focus, auto-exposure, and additional exposure options

Convenient Data Storage and Sharing

Export images via USB or network connection

Imagine No Compromises

- Unmatched fluorescence and chemiluminescence performance
- Powerful and intuitive software
- U.S. FDA CFR 21 Part 11 compliance

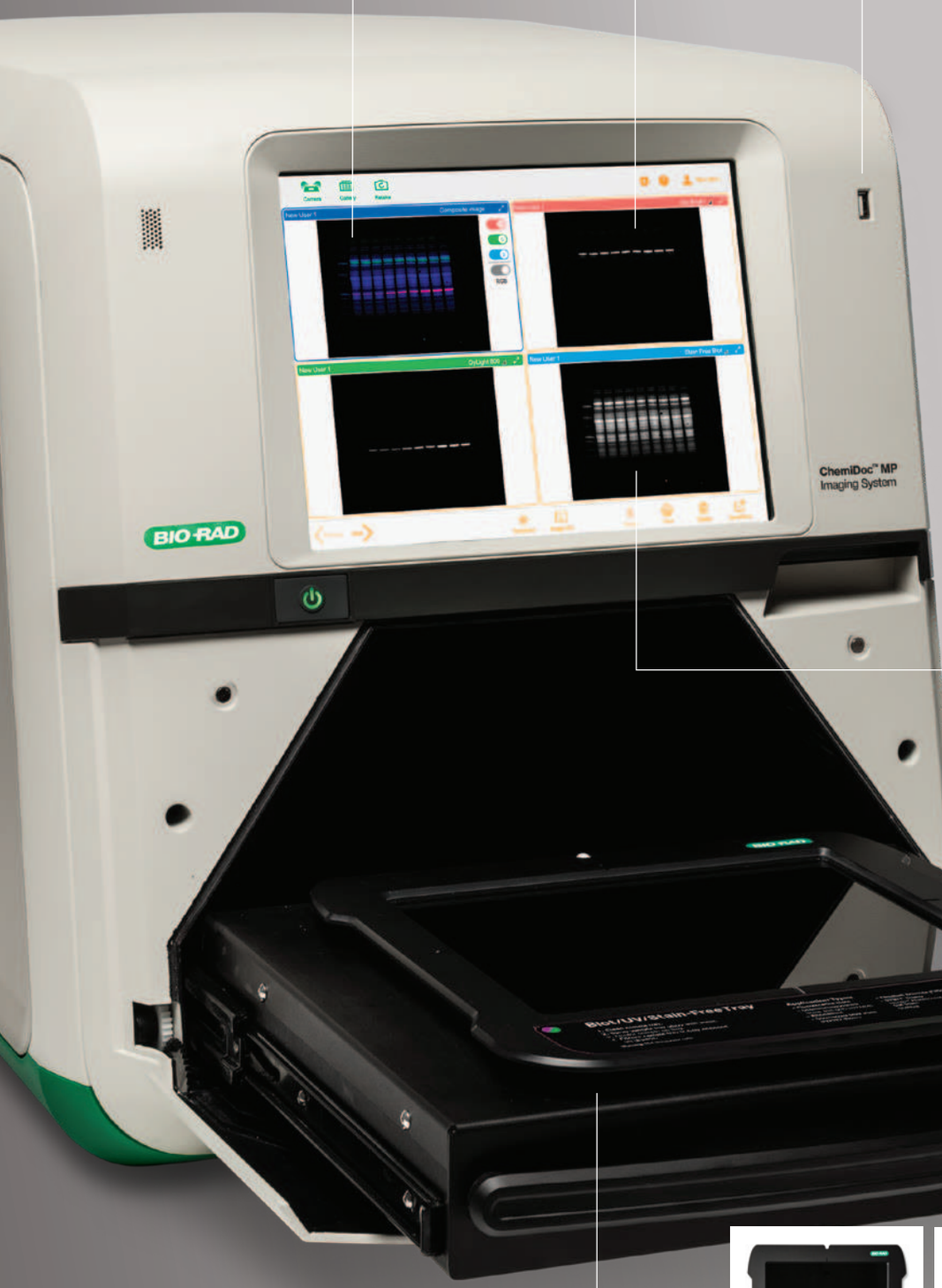


Image Assessment at the Point of Acquisition

Pinch and zoom images on the 12-inch touch screen; access a range of tools with Image Lab™ Touch Software

Smart Tray Technology™

Automatically recognizes your application

Fluorescent and chemiluminescent blots, stain-free gels/blots, and ethidium bromide, SYPRO Ruby, and other stains.

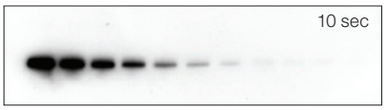
Coomassie Blue, silver, and other stains.

GelGreen or any SYBR® stains.

One instrument. Many options.

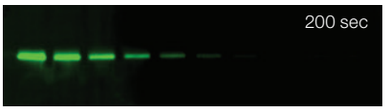
Why compromise when a single imaging system can do it all?

Traditional



Film

OR



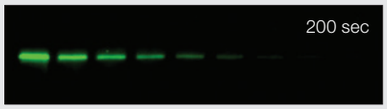
IR800 on a Fluorescence Scanner

ChemiDoc MP System

The superior quantitation of digital meets the sensitivity of film and delivers the best fluorescence performance with Bio-Rad's brightest new fluorophore.

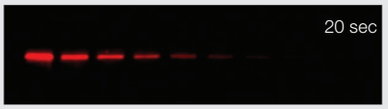
Chemiluminescence

AND



IR800 Fluorescence

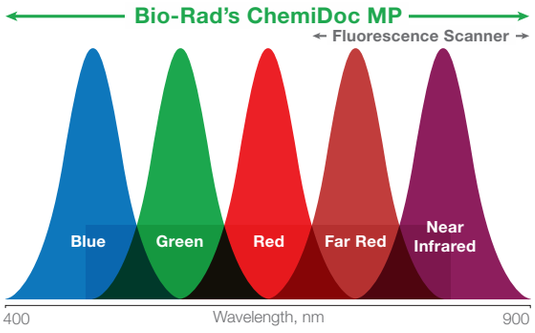
AND



StarBright™ Blue 700 Fluorophore

More flexibility in dye selection.

Detect up to three proteins in a single experiment with a wide range of supported fluorophore options.



DyLight 488
Alexa Fluor 488
Cy2

DyLight 650
Alexa Fluor 647
Cy5
SYPRO Ruby

DyLight 800
Alexa Fluor 790
Cy7
IRDye 800

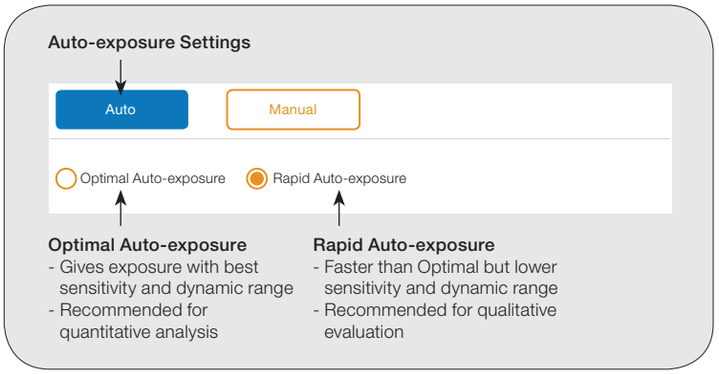
StarBright B520
DyLight 550
Alexa Fluor 546
Cy3
Rhodamine

StarBright B700
DyLight 680
Alexa Fluor 680
Cy5.5
IRDye 680

Not your traditional software.

Image Lab Touch Software:

- Teaches as you tap and explore
- Picks optimal light source and filters
- Suggests exposure times



Optimal Auto-exposure
- Gives exposure with best sensitivity and dynamic range
- Recommended for quantitative analysis

Rapid Auto-exposure
- Faster than Optimal but lower sensitivity and dynamic range
- Recommended for qualitative evaluation

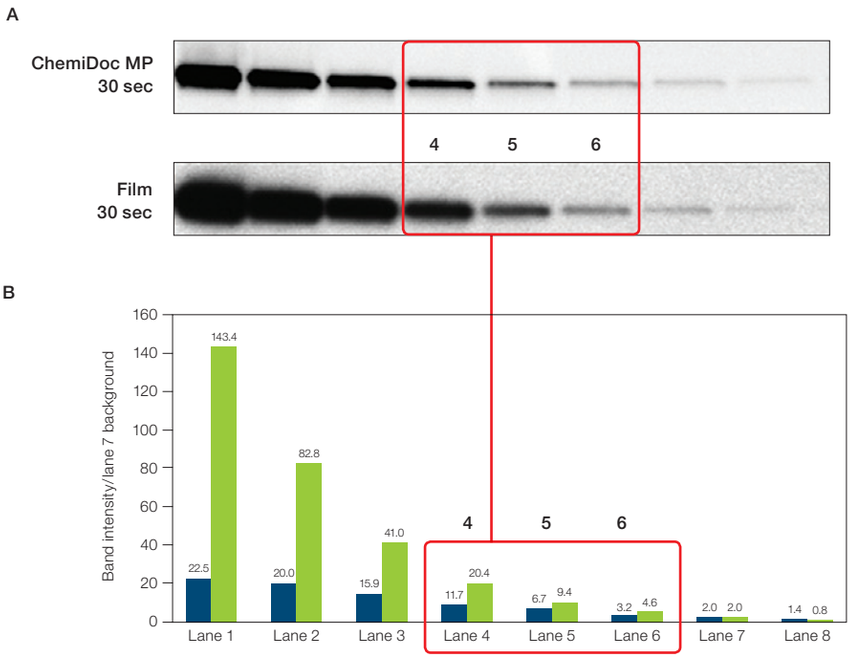
A system for every need

Image gels and blots and take advantage of an easy upgrade path to multiplex fluorescence imaging.

	ChemiDoc MP System	ChemiDoc System
Chemiluminescence imaging with the sensitivity of X-ray film	✓	✓
Multiplex RGB and IR fluorescence imaging	✓	Upgradeable to ChemiDoc MP System
Nucleic acid and protein gel imaging	✓	✓

High-performance chemiluminescence imaging

Get the sensitivity of film without the hassles of film processing or darkroom chemicals.



Comparison of sensitivity between the ChemiDoc MP Imaging System and film. A, western blot analysis of LacI expression was conducted using 2x serial dilutions (starting at 0.31 µg protein) of *E. coli* cell lysate. The membranes were either imaged on the ChemiDoc MP Imaging System for 30 sec or exposed to film for 30 sec. **B**, band intensities, normalized to lane 7 background, illustrate the ability of the ChemiDoc MP Imaging System to detect low signal bands at the same exposure time as film. The red boxes represent the limited linear dynamic range of film. ChemiDoc MP Imaging System, 30 sec (■); film, 30 sec (■).

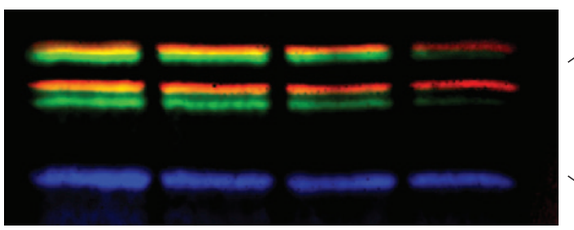
A better way to normalize quantitative western blots.

Normalizing blots with housekeeping proteins (HKPs) requires time, money, and additional sample to validate HKP expression and linearity. Total protein normalization using stain-free technology and the ChemiDoc or ChemiDoc MP System allows normalization across a wide dynamic range. Get better, more publishable data without lengthy optimization.

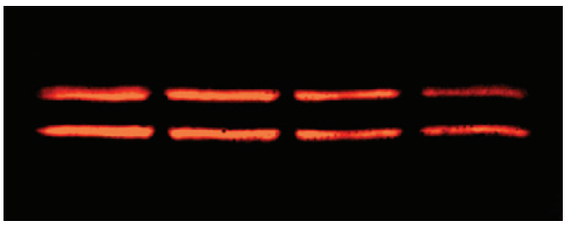
Linearity comparison of stain-free total protein measurement and immunodetection of three housekeeping proteins in 10–50 µg of HeLa cell lysate.

One blot. Three results.

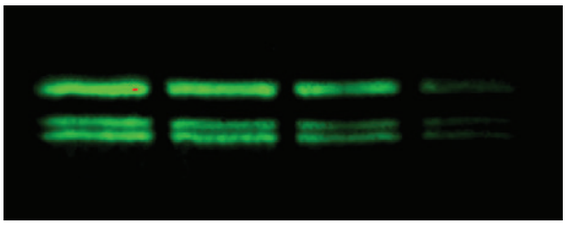
Why strip and reprobe and potentially lose some of your protein or bias your results? Or face the data presentation challenges of cut blots? The ChemiDoc MP System lets you visualize signal from three independent channels on a single blot and allows you to distinguish overlapping signals resulting from even the smallest posttranslational modifications.



Multichannel: Phospho-p44/42 MAPK (ERK1/2), total p44/42 MAPK (ERK 1/2), GAPDH



Phospho-p44/42 MAPK (ERK1/2), StarBright B700 Secondary Antibody

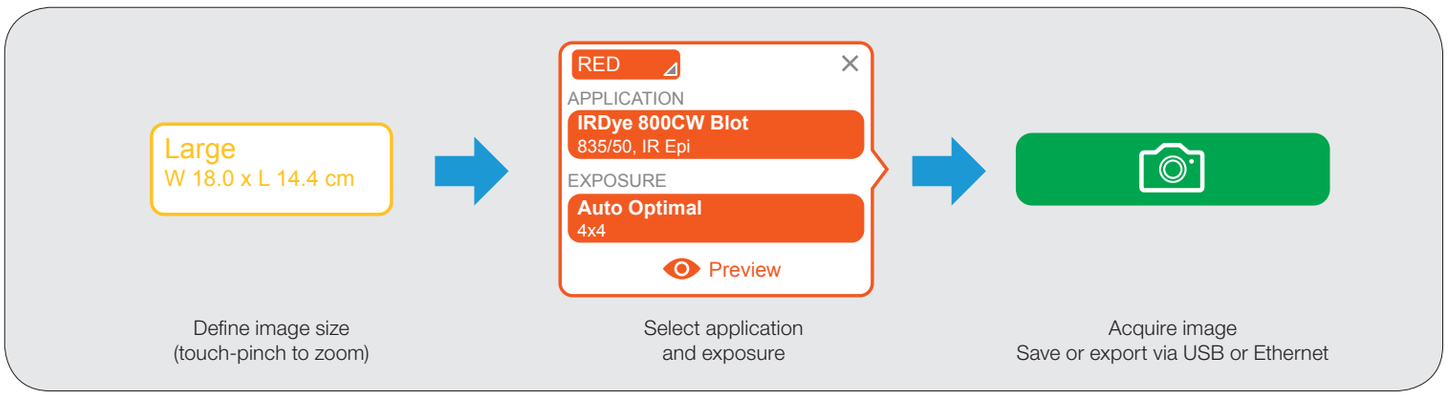


Total p44/42 MAPK (ERK1/2), DyLight 800 Secondary Antibody

Acquire publication-quality images in seconds

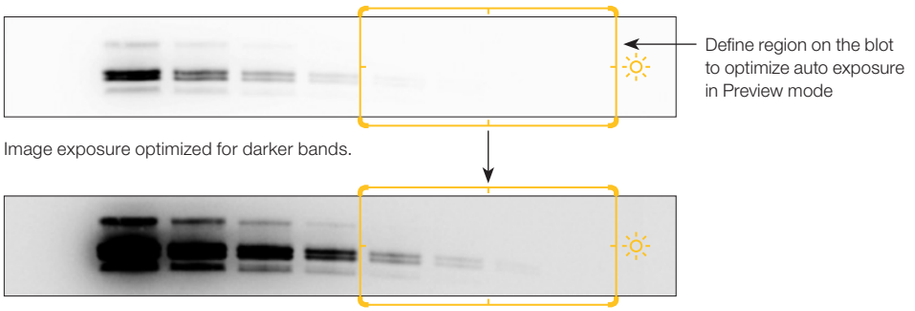
Image Lab Touch Software's intuitive user interface and image acquisition let you acquire exportable images of gels and blots that are ready for publication.

Easy Workflow



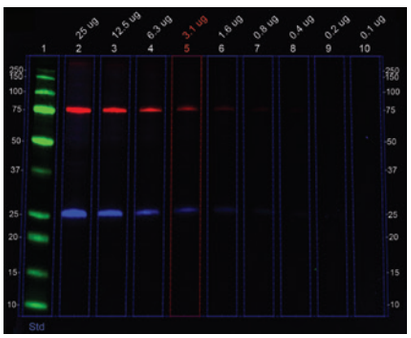
Optimal imaging every time:

- Automatic camera settings and selection of illumination sources and filters
- Optimized exposure for specific bands of interest

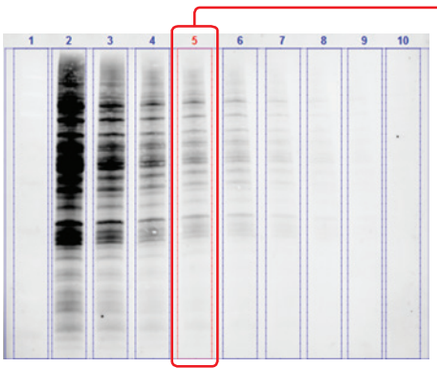


Analyze with certainty on a PC or Mac

Automated lane and band detection, molecular weight determination, and normalization are just a few clicks away with Image Lab Software.



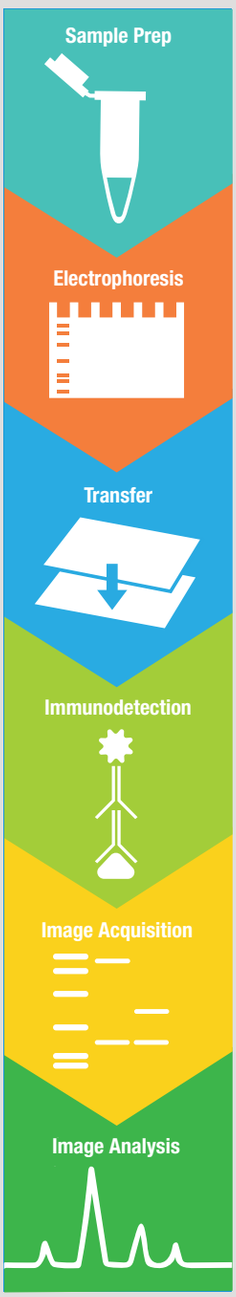
Annotation to make interpretation and publication easy.



Stain-free imaging allows for total protein normalization.

Lane profiling of total protein signal helps remove background and refine band detection.

More than an imaging system. A fully supported western blotting workflow.



Sample Prep:
SureBeads™ Protein A/G-Conjugated Beads
Easy, fast, and cost-effective for better immunoprecipitation.

Electrophoresis:
Stain-Free Gels
Rapid protein separation and normalization without the hassles of staining.

Transfer:
Trans-Blot® Turbo™ Transfer System
Get to the finish line faster with transfers as short as 3 minutes.

Immunodetection:
PrecisionAb™ Validated Western Blotting Antibodies
Sensitivity, specificity, reproducibility — antibodies you can rely on.

Image Acquisition:
ChemiDoc MP Imaging System
Fluorescence and chemiluminescence detection without compromises.

Image Analysis:
Image Lab Software Family
Easy to use, automated, and powerful.

Visit **bio-rad.com/web/gowestern** to see our complete workflow.

Specifications

Automation Capabilities

Smart Tray Technology™	ChemiDoc Imaging Systems automatically recognize your application-specific tray and adjust imaging parameters and software options accordingly
Auto-focus	Precalibrated focus for any zoom setting or sample height
Auto-exposure	Two auto-exposure algorithms (rapid or optimal)
Image flat fielding	Dynamic; precalibrated and optimized for every application

Hardware Specifications

Touch-screen functionality	Multitouch capable (2 points) 12" display
Maximum image area (W x H)	21 x 16.8 cm
Detector	Cooled CCD, 6 megapixels
Dynamic range	>4 orders of magnitude
Illumination source	Trans-UV, 302 nm
	Epi-white
	Trans-white (requires White Sample Tray)
	Trans-blue, 450–490 nm (requires Blue Sample Tray)
	Epi-blue, 460–490 nm excitation*
	Epi-green, 520–545 nm excitation*
	Epi-red, 625–650 nm excitation*
	Epi-far red, 650–675 nm excitation*
	Epi-near IR, 755–777 nm excitation*
Filters	590/110 nm standard filter to perform protein and DNA gel and blot imaging, chemiluminescence filter, 518–546 nm filter, 577–613 nm filter, 675–725 nm filter, 700–730 nm filter, 813–860 nm filter
Data output	16-bit or 8-bit: SCN, TIFF, JPEG image files
Instrument weight	35 kg (78 lbs)
Instrument size (L x W x H)	61 x 51 x 53 cm
Operating voltage	100–250 V
Operating temperature	10–28°C
Operating humidity	10–85% relative humidity (noncondensing)

** Only with ChemiDoc MP System.*

Ordering Information

Catalog #	Description
12003154	**ChemiDoc MP Imaging System**, includes blot and gel imaging system, UV/visible light imaging, chemiluminescence, 5 fluorescence channels (RGB, Far Red, NIR). Includes internal computer, 12" touch screen display, Image Lab Touch Software, blot/UV/stain-free sample tray
12003153	**ChemiDoc Imaging System**, blot and gel imaging system, UV/visible light imaging, chemiluminescence, upgradeable for multiplex fluorescence detection. Includes internal computer, 12" touch screen display, Image Lab Touch Software, blot/UV/stain-free sample tray
Accessories	
12003026	**White Sample Tray for ChemiDoc MP/ChemiDoc Imaging Systems**, for gels stained with copper, silver, or zinc stains
12003027	**Blue Sample Tray for ChemiDoc MP/ChemiDoc Imaging Systems**, for gels stained with GelGreen or any SYBR® stains
12003028	**Blot/UV/Stain-Free Sample Tray for ChemiDoc MP/ChemiDoc Imaging Systems**, for chemiluminescent and fluorescent blots, stain-free gels/blots, and gels stained with ethidium bromide, SYPRO Ruby, Oriole™ SYBR® Stains, and Coomassie Blue
1708377	**Holder for ChemiDoc MP/ChemiDoc Sample Trays and UV Shield**
12003914	**UV Safety Shield for ChemiDoc MP/ChemiDoc Imaging Systems**
12003915	**Gel Alignment Templates for ChemiDoc MP/ChemiDoc Imaging Systems**
1708089	**Mitsubishi Thermal Printer**
1707581	**Mitsubishi Thermal Printer Paper**, 4 rolls
12005137	**IQ/OQ Kit for ChemiDoc MP/ChemiDoc Imaging Systems**, for installation qualification/operational qualification
12003263	**Upgrade Kit**, ChemiDoc to ChemiDoc MP Upgrade Kit, includes all illumination and filters for RGB and near IR/IR fluorescence imaging
Software	
1709690	**Image Lab Software**, stand-alone version, PC or Mac, for viewing images and 1-D analysis
1709691	**Image Lab Software, Security Edition, 1 license**, FDA CFR 21 Part 11 module for Image Lab Software, 1 license, for use with ChemiDoc MP, ChemiDoc, ChemiDoc XRS+, Gel Doc™ EZ, Gel Doc XR+, and GS-900™ Imaging Systems

Visit **bio-rad.com/ChemiDocs** to learn more about ChemiDoc Imaging Systems.

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Precision Plus Protein Standards are sold under license from Life Technologies Corporation, Carlsbad, CA for use only by the buyer of the product. The buyer is not authorized to sell or resell this product or its components.

Clarity Max Western ECL Substrate is manufactured by Cyanagen Srl and is the subject of patent application numbers US7855287, EP1950207, US9040252, AU2011202658, CA2742025, US8129136, and EP1962095, together with other equivalent granted patents and patent applications in other countries like CN102313732.

BIO-RAD

Bio-Rad Laboratories, Inc.

Life Science Group

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