

DETECTION ON BLOTS

Immun-Star™ WesternC™ Chemiluminescence Kit

- Optimized for use with CCD imagers
- Detects extremely low levels of protein
- Produces publication-quality images directly from CCD imagers
- Works with conventional methods and reagents

Chemiluminescent Blots Suitable for CCD Imaging

Detection on Blots

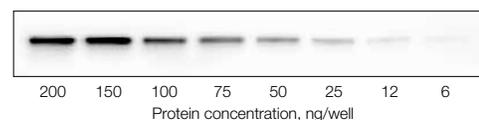
The Immun-Star WesternC chemiluminescence kit, a member of the Immun-Star family of chemiluminescent detection products, is optimized for use with charge-coupled device (CCD) imagers. This convenient, versatile kit is used for both qualitative and quantitative analysis of proteins on blots. It generates the intense, long-lasting signals that are critical for high-resolution imaging with CCD imagers, such as the Molecular Imager® ChemiDoc™ XRS, ChemiDoc MP, and VersaDoc™ MP systems.

Chemiluminescent Western Blotting

Chemiluminescent detection is a popular method of protein detection on western blots because of its speed and sensitivity: the Immun-Star WesternC kit detects mid-femtogram amounts of protein. The kit offers detection sensitivity comparable to that of autoradiographic methods without the disadvantages related to isotope detection, such as exposure, disposal, and environmental concerns.

Chemiluminescent detection is based on the interaction of a chemiluminescent substrate with an enzyme that has been conjugated to an antibody. When the enzyme-antibody conjugate binds to the substrate, it catalyzes a reaction that produces light.

The Immun-Star WesternC chemiluminescence kit is compatible with all horseradish peroxidase (HRP)-conjugated secondary antibodies and includes an enhancer to increase the intensity and duration of the emitted light signal.



High-quality image produced by the Immun-Star WesternC signal. Shown is a serial dilution of protein from 200 ng to 6 ng per well. Blots were processed using the Immun-Star WesternC kit and imaged using the Molecular Imager ChemiDoc XRS system.

Long-Lasting Signals Optimal for CCD Imaging

CCD imagers offer the advantages of instant image capture and a larger dynamic range than that of film-based systems. The Immun-Star WesternC chemiluminescence kit is designed to complement CCD imagers by offering strong and intense signals with a 24 hour signal duration for multiple exposures and for optimization of the images using Image Lab™ and Quantity One® software packages. Customers using the Immun-Star WesternC chemiluminescence kit for CCD imaging can expect improved quantitative results within each experiment compared with what can be obtained by film-based systems.

Comparison of Immun-Star Chemiluminescence Kits

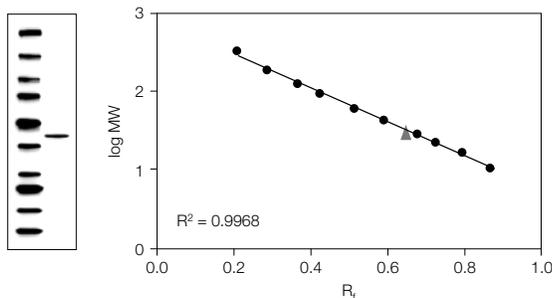
| | Immun-Star HRP Kits | Immun-Star Alkaline Phosphatase (AP) Kits | Immun-Star WesternC Kit |
|---------------------------------|--|--|--|
| Sensitivity | 1 pg | 10 pg | Mid-femtogram |
| Signal duration | 6–8 hr | 24 hr | 24 hr |
| Primary detection method | Film | Film | CCD imager |
| Recommended antibody dilutions* | Primary: 1:1,000–1:6,000 Secondary: 1:15,000–1:30,000 | Primary: 1:1,000–1:6,000 Secondary: 1:3,000 | Primary: 1:1,000–1:50,000 Secondary: 1:50,000–1:250,000 |
| Shelf life | 4°C for 1 year | 4°C for 1 year | Room temperature for 1 year |
| Recommended membrane | Nitrocellulose or PVDF | Nitrocellulose or PVDF | Nitrocellulose or PVDF |

* 1 mg/ml starting concentration.



Blot Detection of Standards

Precision Plus Protein™ WesternC™ standards complement the Immun-Star WesternC kit. The standard proteins can be imaged on the blot using StrepTactin-HRP conjugate for convenient and accurate molecular weight estimation on western blots. These standards generate standard curves with an R^2 value >0.99, demonstrating a strong linear relationship between the proteins' log molecular weight and their migration distance in the gel. Detecting these standards on blots through CCD imaging is a straightforward procedure that uses conventional blotting methods and reagents.



Compatibility with Precision Plus Protein WesternC standards. Left, blot image captured by the ChemiDoc XRS system shows the outstanding sharpness and clarity of the standards by loading 5 μ l of the standards along with a sample of unknown molecular weight. Right, molecular weight can be accurately estimated by plotting log molecular weight vs. the relative migration distance (R_f) of the standards. WesternC standards and a sample were run on a 4–20% Tris-HCl gel, transferred to a PVDF membrane, and developed using the Immun-Star WesternC kit.

Ordering Information

Catalog # Description

Immun-Star Detection Kits

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| 170-5070 | Immun-Star WesternC Chemiluminescence Kit , includes 50 ml luminol/enhancer, 50 ml peroxide solution |
| 170-5044 | Immun-Star Goat Anti-Mouse (GAM)-HRP Detection Kit , 500 ml |
| 170-5045 | Immun-Star Goat Anti-Rabbit (GAR)-HRP Detection Kit , 500 ml |
| 170-5010 | Immun-Star Goat Anti-Mouse (GAM)-AP Detection Kit , includes substrate, enhancer, antibody |
| 170-5011 | Immun-Star Goat Anti-Rabbit (GAR)-AP Detection Kit , includes substrate, enhancer, antibody |

Molecular Imager Systems

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| 170-8280 | ChemiDoc MP System , PC or Mac, includes darkroom, UV transilluminator, epi-white illumination, camera, power supply, cables, Image Lab™ software |
| 170-8650 | Molecular Imager® VersaDoc™ MP 5000 System , PC or Mac, 100/240 V, includes CCD camera, darkroom, power supply cables, epi-illumination, transillumination fluorescent reference plate, focusing target, Quantity One software, instructions |
| 170-8265 | ChemiDoc XRS+ System with Image Lab™ Software , PC or Mac, includes darkroom, UV transilluminator, epi-white illumination, camera, power supply, cables, Image Lab software |

Complementary Products

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| 161-0376 | Precision Plus Protein WesternC Standards , 250 μ l, 50 applications |
| 161-0398 | Precision Plus Protein WesternC Pack Value Pack , 250 applications |
| 161-0385 | Precision Plus Protein WesternC Pack , 50 applications of WesternC standards and 50 applications of StrepTactin-HRP |

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|---|---|
| Catalog # | Description |
| 161-0380 | Precision Protein™ StrepTactin-HRP Conjugate , 300 μ l, 150 applications |
| 161-0381 | Precision Protein StrepTactin-HRP Conjugate , 125 μ l, 50 applications |
| 170-5047 | Immun-Star Goat Anti-Mouse (GAM)-HRP Conjugate , 2 ml, lyophilized |
| 170-5046 | Immun-Star Goat Anti-Rabbit (GAR)-HRP Conjugate , 2 ml, lyophilized |
| 170-6404 | Blotting Grade Blocker , nonfat dry milk, 300 g |
| Nitrocellulose Membrane (0.45 μm) | |
| 162-0251 | Nitrocellulose Membranes , 26.5 \times 28 cm, 10 sheets |
| 162-0113 | Nitrocellulose Membranes , 20 \times 20 cm, 5 sheets |
| 162-0116 | Nitrocellulose Membranes , 15 \times 15 cm, 10 sheets |
| 162-0114 | Nitrocellulose Membranes , 15 \times 9.2 cm, 10 sheets |
| 162-0148 | Nitrocellulose Membranes , 11.5 \times 16 cm, 10 sheets |
| 162-0117 | Nitrocellulose Membranes , 9 \times 12 cm, 10 sheets |
| 162-0167 | Nitrocellulose Membranes , 8.5 \times 13.5 cm, 10 sheets |
| 162-0145 | Nitrocellulose Membranes , 7 \times 8.5 cm, 10 sheets |
| 162-0234 | Nitrocellulose/Filter Paper Sandwiches , 8.5 \times 13.5 cm, 20 pack |
| 162-0235 | Nitrocellulose/Filter Paper Sandwiches , 8.5 \times 13.5 cm, 50 pack |
| 162-0214 | Nitrocellulose/Filter Paper Sandwiches , 7 \times 8.5 cm, 20 pack |
| 162-0215 | Nitrocellulose/Filter Paper Sandwiches , 7 \times 8.5 cm, 50 pack |

Nitrocellulose Membrane (0.2 μ m)

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| 162-0252 | Nitrocellulose Membranes , 26.5 \times 28 cm, 10 sheets |
| 162-0150 | Nitrocellulose Membranes , 20 \times 20 cm, 5 sheets |
| 162-0147 | Nitrocellulose Membranes , 13.5 \times 16.5 cm, 10 sheets |
| 162-0168 | Nitrocellulose Membranes , 8.5 \times 13.5 cm, 10 sheets |
| 162-0146 | Nitrocellulose Membranes , 7 \times 8.5 cm, 10 sheets |
| 162-0232 | Nitrocellulose/Filter Paper Sandwiches , 8.5 \times 13.5 cm, 20 pack |
| 162-0233 | Nitrocellulose/Filter Paper Sandwiches , 8.5 \times 13.5 cm, 50 pack |
| 162-0212 | Nitrocellulose/Filter Paper Sandwiches , 7 \times 8.5 cm, 20 pack |
| 162-0213 | Nitrocellulose/Filter Paper Sandwiches , 7 \times 8.5 cm, 50 pack |

Immun-Blot® PVDF Membrane (0.2 μ m)

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| 162-0255 | Immun-Blot PVDF Membranes , 25 \times 28 cm, 10 sheets |
| 162-0176 | Immun-Blot PVDF Membranes , 20 \times 20 cm, 10 sheets |
| 162-0175 | Immun-Blot PVDF Membranes , 10 \times 15 cm, 10 sheets |
| 162-0174 | Immun-Blot PVDF Membranes , 7 \times 8.4 cm, 10 sheets |
| 162-0238 | Immun-Blot PVDF/Filter Paper Sandwiches , 8.5 \times 13.5 cm, 20 pack |
| 162-0239 | Immun-Blot PVDF/Filter Paper Sandwiches , 8.5 \times 13.5 cm, 50 pack |
| 162-0218 | Immun-Blot PVDF/Filter Paper Sandwiches , 7 \times 8.5 cm, 20 pack |
| 162-0219 | Immun-Blot PVDF/Filter Paper Sandwiches , 7 \times 8.5 cm, 50 pack |
| 162-0260 | Immun-Blot Low Fluorescence PVDF/Filter Paper Sets , 7 \times 8.5 cm, 10 sheets of membrane, 20 sheets of precut filter paper |
| 162-0261 | Immun-Blot Low Fluorescence PVDF/Filter Paper Sets , 7 \times 8.5 cm, 20 sheets of membrane, 40 sheets of precut filter paper |
| 162-0262 | Immun-Blot Low Fluorescence PVDF/Filter Paper Sets , 8.5 \times 13.5 cm, 10 sheets of membrane, 20 sheets of precut filter paper |
| 162-0263 | Immun-Blot Low Fluorescence PVDF/Filter Paper Sets , 8.5 \times 13.5 cm, 20 sheets of membrane, 40 sheets of precut filter paper |

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