

WesternBright™ Quantum

Quantitative, sensitive chemiluminescent Western blotting for CCD imagers

WesternBright Quantum chemiluminescent substrate sets the bar for both sensitivity and quantitative ability. Specially developed for CCD imaging, WesternBright Quantum produces a strong, long-lasting signal with extremely low background, perfect for detecting low abundance proteins. Since it does not exhibit substrate depletion at high protein loads, WesternBright Quantum provides the largest dynamic range of any chemiluminescent substrate for the most quantitative chemiluminescent Western experiments.

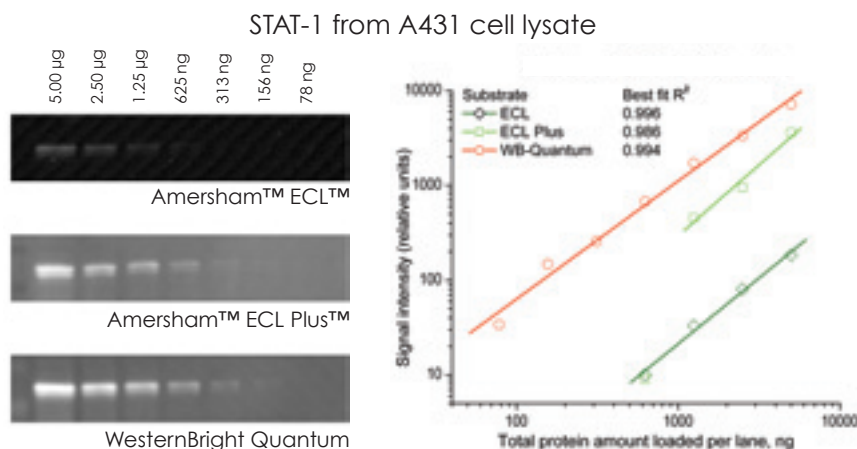


WesternBright™ Quantum

Quantitative, sensitive chemiluminescent Western blotting for CCD imagers

WesternBright Quantum is a new chemiluminescent substrate specially formulated for CCD imaging. This novel horseradish peroxidase (HRP) substrate provides a strong, long-lasting signal, the broadest useful linear range and high sensitivity for the most quantitative chemiluminescent Western assays.

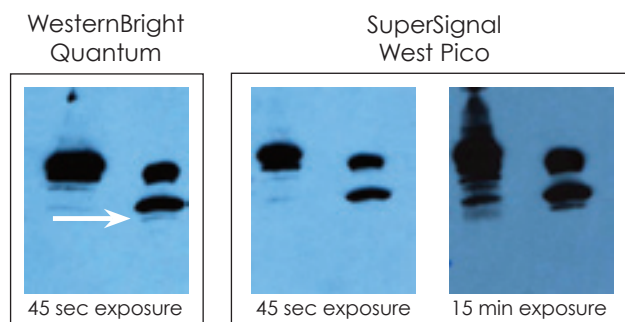
Highest sensitivity, for quantitative detection of low-abundance proteins



WesternBright Quantum provides the highest sensitivity and broadest linear dynamic range. Serial dilutions of A431 cell lysates were blotted and probed to detect STAT-1 protein. The blots were detected with WesternBright Quantum, or two other chemiluminescent substrates (ECL and ECL Plus, GE Healthcare). Only data points on the linear portion of the best-fit curve for each substrate are shown. All display parameters are identical across all images in this figure.

Superior sensitivity with film detection

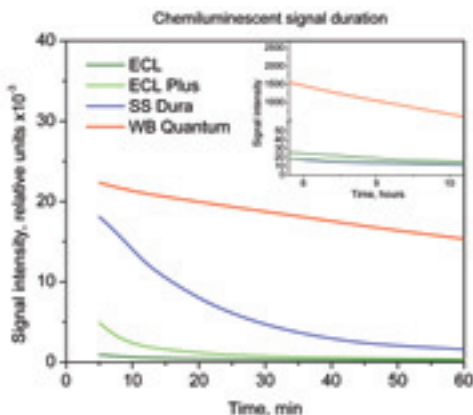
WesternBright Quantum provides high-performance film detection. WesternBright Quantum or SuperSignal® West Pico (Thermo Scientific) were used to detect duplicate Western blots. A band (arrow) is detected by WesternBright Quantum in a brief exposure, while a much longer exposure is needed to detect the same band with SuperSignal West Pico. All display parameters are identical across all images in this figure.



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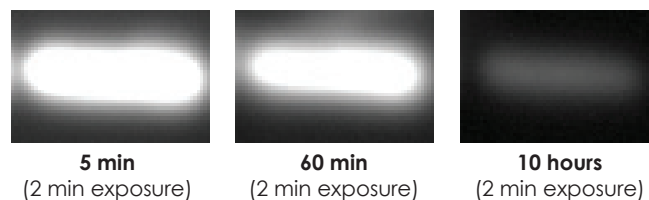
Signal that endures



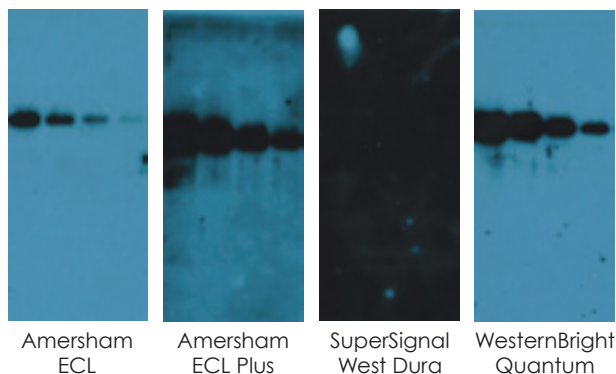
WesternBright Quantum produces the most stable chemiluminescent signal. Blots detected using WesternBright Quantum or one of three other chemiluminescent substrates, were re-imaged at several times over a 10 hour period. The intensity of one band is plotted. 60 minutes after substrate incubation, WesternBright Quantum retains 70% of its initial signal strength, while the competition decays to 5% or less. Enjoy more flexibility in imaging blots, knowing the signal will not decay substantially over several hours. Also, long exposures can be conducted if needed to detect very low abundance bands.

Never rush to image a blot again

WesternBright Quantum allows blots to be imaged several hours after substrate incubation. Blots can be re-imaged to obtain the perfect exposure, without worrying about losing signal. A blot was imaged with 2 min exposures at 5 min, 60 min, and 10 hours after substrate incubation. The same band is clearly seen in each image, even after 10 hours.



Low background for broad useful linear dynamic range



Extremely low background with WesternBright Quantum. Replicate Western blots were developed using WesternBright Quantum or one of three other chemiluminescent substrates. After a simultaneous 20 minute exposure to the same piece of film, WesternBright Quantum displays the best combination of sensitivity and signal with low background. All display parameters are identical across all images shown in this figure.

WesternBright™ Quantum

Quantitative, sensitive chemiluminescent Western blotting for CCD imagers

WesternBright Quantum is specially designed for sensitive chemiluminescent detection on CCD-based systems. It provides the fastest, most sensitive, most quantitative chemiluminescent Western blots.

Features

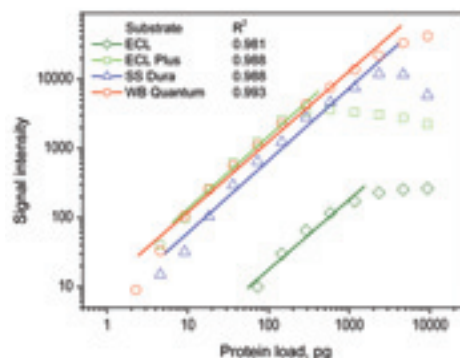
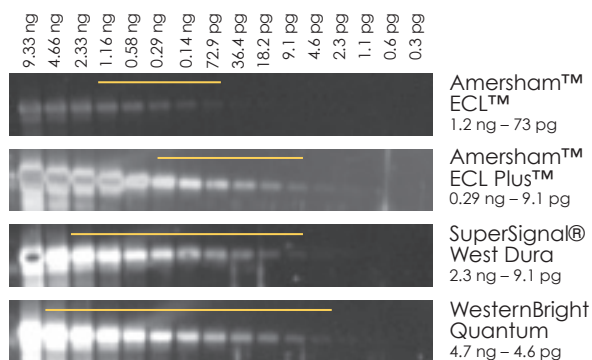
- Sensitive – detect attomoles of protein per band.
- Quantitative – linear range of signal with respect to protein amount exceeds 3 orders of magnitude.
- Low background – for high signal to noise.
- Long lasting signal – image blots hours after substrate incubation.
- Versatile – Optimized for CCD imaging, and compatible with film detection.

| Catalog Number | Product | Size |
|----------------|--|------------|
| K-12042-C20 | WesternBright™ Quantum Western Blotting HRP Substrate Trial kit size | 20 ml |
| K-12042-D10 | WesternBright™ Quantum Western Blotting HRP Substrate (for 1000 cm ² membrane) | 100 ml |
| K-12042-D20 | WesternBright™ Quantum Western Blotting HRP Substrate (for 2000 cm ² membrane) | 200 ml |
| L-07014-100 | LucentBlue™ X-ray film | 100 sheets |
| R-03024-D50 | AdvanWash™ 10x washing solution | 500 ml |
| R-05072-500 | Goat-anti-rabbit HRP-conjugated secondary antibody | 500 µl |
| R-05071-500 | Goat-anti-mouse HRP-conjugated secondary antibody | 500 µl |
| L-08001-010 | Low-Fluorescence PVDF Transfer Membrane 7x9 cm | 10 sheets |
| L-08002-010 | Nitrocellulose Transfer Membrane 0.45 µm 7x9 cm | 10 sheets |
| L-08003-010 | Nitrocellulose Transfer Membrane 0.22 µm 7x9 cm | 10 sheets |

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Highest sensitivity, greatest linear range



Linear dynamic range of WesternBright Quantum.

Identical Western blots containing serial dilutions of transferrin were probed with a rabbit-anti-transferrin primary antibody, and a goat-anti-rabbit secondary antibody conjugated to horseradish peroxidase. The blots were incubated with chemiluminescent substrates as recommended by each manufacturer. All blots were simultaneously imaged for 2 minutes on a CCD imager; and display parameters are identical across all images shown. Band intensities were plotted and a best fit linear regression conducted for each substrate. WesternBright Quantum shows the largest dynamic range out of all four substrates with the highest R² value. Bands that fall on the linear part of the curve for each substrate are indicated on the image.

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