

Radiance Q Chemiluminescent Substrate

Unmatched linearity; unwavering sensitivity; ultra quantitative confidence

Radiance Q substrate is uniquely designed for generating reproducible, quantitative chemiluminescent Western blotting data across all imaging paradigms (e.g. laser-bed-scanners and CCD imaging systems). It will not exhibit substrate depletion at high protein loads. Rather it provides a consistent, linear signal response over a broad range of protein concentrations, resulting in the greatest dynamic range of any chemiluminescent substrate. Radiance is the fastest, most sensitive, most quantitative, commercially available chemiluminescent substrate.

Features

Radiance Q chemiluminescent substrate performs optimally with CCD imagers. This novel horseradish peroxidase (HRP) substrate provides a strong, long-lasting signal, the broadest linear range, and high sensitivity for the most quantitative chemiluminescent Western assays

- **Sensitive** – detect attomoles of protein per band
- **Quantitative** – linear range of signal exceeds 3 orders of magnitude
- **Low background** – for high signal to noise
- **Long lasting signal** – blots can be imaged hours after substrate incubation
- **Versatile** – Optimized for CCD imaging AND compatible with film detection



Radiance Q chemiluminescent substrate sets the bar for sensitivity and quantitative capacity. Specially developed for CCD imaging, Radiance Q produces a strong, long-lasting signal with extremely low background.

Highest sensitivity, greatest linear range

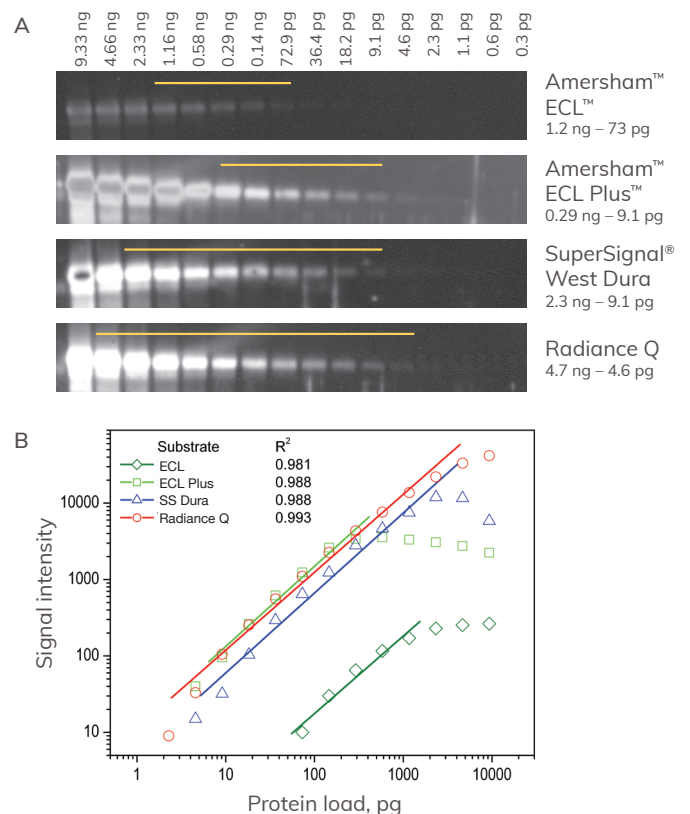
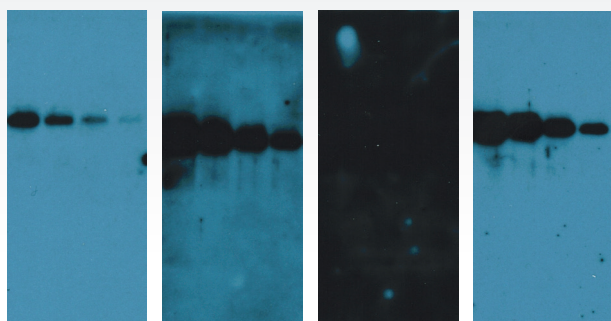


Figure A. Identical Western blots containing serial dilutions of transferrin were probed with a rabbit-anti-transferrin primary antibody, and a goat-anti-rabbit secondary antibody conjugated to horseradish peroxidase. The blots were incubated with chemiluminescent substrates as recommended by each manufacturer. All blots were simultaneously imaged for 2 minutes; and display parameters are identical across all images shown. **Figure B.** Band intensities were plotted and a best fit linear regression conducted for each substrate. Radiance Q shows the largest dynamic range out of all four substrates with the highest R² value.

Low background for broad, linear dynamic range

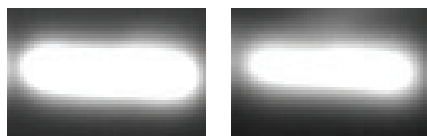


Amersham ECL Amersham ECL Plus SuperSignal West Dura Radiance Q

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

Long-lasting signal

Radiance Q allows blots to be imaged several hours after substrate incubation. Blots can be re-imaged to obtain the perfect exposure, without suffering from signal decay.

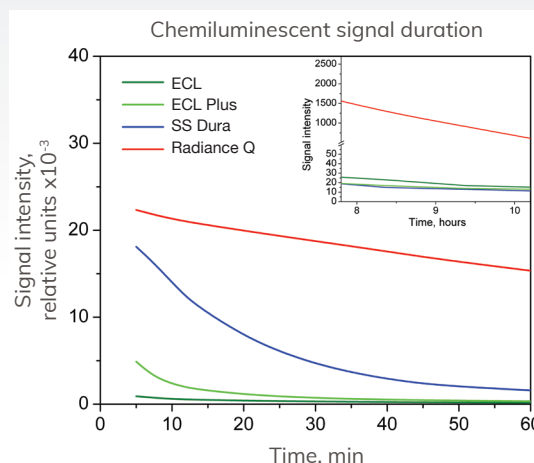


5 min
2 min exposure after
substrate incubation

60 min
2 min exposure after
substrate incubation

A blot was imaged with 2 min exposures at 5 min and 60 min after substrate incubation.

Signal that endures



Radiance Q produces the most stable chemiluminescent signal. Blots detected using Radiance Q 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, Radiance Q 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.

Ordering information

Part Number	Name	Description	Size
AC2101	Radiance Q	Chemiluminescent HRP substrate for quantitative Westerns – contains substrate for 1500 cm ² membrane	150 ml