

LumiGLO
Reserve™

LumiGLO Reserve™ Chemiluminescent Substrate and Western Blot Kits See More of What You've Been Missing!

For years, researchers have relied on LumiGLO® Chemiluminescent Substrate for picogram detection of protein on Western blots. KPL has expanded this line to now include a new class of HRP-based chemiluminescent kits – LumiGLO Reserve – for maximum sensitivity in Western blot detection.

Take a closer look at the advantages of LumiGLO Reserve:

Maximum Sensitivity

LumiGLO Reserve's proprietary two-component substrate formulation allows for greater than 20 times the sensitivity than standard LumiGLO. With detection levels in the femtogram range, LumiGLO Reserve is ideal for those situations where the protein of interest is expressed in low abundance.

Sample and Antibody Conservation

LumiGLO Reserve provides the added benefit of strong signal with the use of reduced amounts of precious target and antibodies. Therefore, material of limited supply or higher expense can be conserved while maintaining your current level of sensitivity.

Superior Signal to Noise

In combination with KPL's proprietary Detector™ Block, very low background can be achieved without compromise to signal intensity.

Convenience

LumiGLO Reserve is supplied in several kit formats to offer the most flexibility. A comprehensive Protein Detector LumiGLO Reserve Western Blot Kit is available for a fully optimized approach to chemiluminescent Western blot detection. Alternatively, LumiGLO Reserve Chemiluminescent Substrate Kits can be used in existing assays where greater sensitivity is desired.

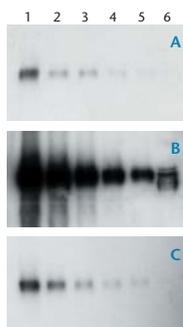


Figure 1: Relative expression of transcription factor, c-myc, using different chemiluminescent substrates. Five two-fold serial dilutions of purified c-myc (25 ng – 1.56 ng, lanes 1–5) were compared to a 64 µg total protein HeLa nuclear lysate (lane 6). Following separation on a 4–20% PAGE gel and transfer to PVDF, protein was detected using a rabbit anti-c-myc antibody (1:200) and anti-rabbit HRP conjugate (1:10,000). Detection conditions were identical with the exception of substrate. While the c-myc lysate sample was not detectable with A) LumiGLO or C) ECL Plus after 10 minutes, the sample was easily detected with B) LumiGLO Reserve after just a 2-minute film exposure.

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LumiGLO® Chemiluminescent Substrate Selection Guide

	LumiGLO Reserve	LumiGLO
Detection Limit	Femtogram	Picogram
Emission Duration	4–8 hours	1–2 hours
Stability of Working Solution	8 hours at RT	24 hours at RT
Recommended Membrane	Nitrocellulose or PVDF	Nitrocellulose or PVDF
Recommended Detection Method	Film/Chemiluminescent Imager	Film

Comparison of HRP Chemiluminescent Detection Reagents

LumiGLO Reserve™ was compared to leading high sensitivity HRP chemiluminescent substrates to determine the relative signal provided when detecting protein of reduced concentrations. Each detection reagent was used according to the manufacturers' recommended protocols as well as under identical conditions.

In either case, LumiGLO Reserve was able to detect significantly lower protein concentrations than most competitive substrates. In addition, the LumiGLO Reserve kits delivered the best signal to noise compared to the other systems tested (See Figures 2 and 3).



Figure 2: Comparison of low-end sensitivity using LumiGLO Reserve and ECL Detection Kits. Two-fold serial dilutions of Mouse IgG (1 ng – 31 pg) were separated by SDS-PAGE and transferred to PVDF. Under identical conditions, protein was detected using HRP-labeled anti-mouse antibody (varied dilutions according to recommended optimization) and each respective substrate: A) LumiGLO Reserve, B) ECL Plus™, C) ECL Advance™. Film was exposed for 10 minutes and analyzed for sensitivity and signal to noise.



Figure 3: Comparison of low-end sensitivity using LumiGLO Reserve and ECL Substrates. Western blots of the same serial dilutions of Mouse IgG were prepared as in Figure 2. Under identical block and wash conditions, protein was detected using HRP-labeled anti-mouse antibody (1:10,000 of 0.1 mg/mL stock) and each respective substrate: A) LumiGLO Reserve, B) ECL Plus, C) ECL Advance. Film was exposed for 30 seconds and analyzed for sensitivity and signal to noise.

Ordering Information

Catalog No.	Product Name	Size
54-71-00	LumiGLO Reserve Chemiluminescent Substrate Kit Kit Contents: LumiGLO Reserve Substrate Solutions A and B, and Wash Solution Concentrate.	2400 cm ²
54-71-01	LumiGLO Reserve Chemiluminescent Substrate Kit Kit Contents: LumiGLO Reserve Substrate Solutions A and B, and Wash Solution Concentrate.	600 cm ²
54-13-50	Protein Detector™ LumiGLO Reserve Western Blot Kit Kit Contents: LumiGLO Reserve Substrate Solutions A and B, Wash Solution Concentrate, Detector Block, and HRP-labeled Anti-Rabbit and Anti-Mouse Conjugates.	2400 cm ²

To order or for more information on KPL's full line of protein and nucleic acid detection products, contact us at 800.638.3167 / 301.948.7755, FAX 301.948.0169 or visit us at www.kpl.com.

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Technical Tips

- LumiGLO Reserve can be used with nitrocellulose and PVDF membranes.
- Because of LumiGLO Reserve's sensitivity, it is imperative to the success of the assay that the primary antibody and HRP conjugate be titrated to give the optimal signal to noise. In many cases, antibodies can be used at more dilute concentrations than previously used with other chemiluminescent substrates.
- LumiGLO Reserve emits light over the course of 4–8 hours with the most intense emission within the first two hours. Because of its high light intensity, most images may be captured well within 10 minutes making multiple exposures easy to obtain.
- The increased light output also makes this substrate ideal for use with chemiluminescent imagers. LumiGLO Reserve has been tested on Alpha Innotech FluorChem™ 8000 and Syngene GeneGnome™ instruments.



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