



Enzyme-Linked ImmunoSorbent Assay

See more with KPL ELISA products —
Get higher signal and lower background.



Where Better Science Begins

See more with KPL ELISA Products

Sometimes it is difficult to distinguish your protein of interest from background. However, with KPL Protein Detector™ ELISA products you get strong, clean signal every time. KPL's ELISA products offer consistent, high quality results and enable sensitive immunodetection of protein in a microwell format.

Choose from a broad line of sensitive substrates, high quality kits and stand-alone reagents for detecting and quantifying specific antigens in a complex protein mixture. Combine these products with KPL's extensive line of secondary antibodies to develop reproducible and sensitive ELISAs.

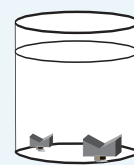
- Substrates for colorimetric or chemiluminescent detection
- Secondary antibodies unlabeled or labeled with either horseradish peroxidase (HRP) or alkaline phosphatase (AP)
- Support reagents – blocking solutions, coating buffers, wash solutions, conjugate stabilizers, stop solutions
- Universal ELISA kits formatted with HRP- or AP-labeled secondary antibodies

The foundation of KPL's Protein Detector ELISA offering is a broad line of chemiluminescent and chromogenic substrates for use with HRP and AP conjugates that provide varied levels of sensitivity. For highly sensitive colorimetric detection, choose SureBlue Reserve™ Microwell Substrate with long shelf life and convenient 1-component format. LumiGLO Reserve™ Chemiluminescent Substrate offers the ultimate in sensitivity via chemiluminescent reaction with HRP. No matter which you choose, KPL's ELISA substrates are all tested to assure lot-to-lot consistency, reproducibility and long-term stability.

An extensive line of high-quality secondary antibody conjugates and labeled streptavidin are also available. Each is affinity purified to assure excellent signal-to-noise results in ELISAs. KPL support reagents are optimized for use in microwell ELISA and tested to verify that they meet strict specifications. They include conjugate stabilizers, diluents, blocking and wash solutions, all formulated to ensure accurate and reproducible results.

Protein Detector Kits provide a convenient starting point for the development of ELISA protocols. Each kit contains enzyme-labeled secondary antibody, corresponding substrate, as well as unique diluent/blocking and wash solutions.

Improving Signal-to-Noise in Protein Detection ELISA



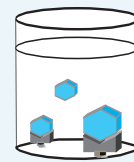
1. Immobilize primary antibody.

Coating solutions provide optimal buffers for binding antigen or antibody to solid phase.



2. Block plate.

Blocking minimizes non-specific binding to solid phase and is critical for lowering background.

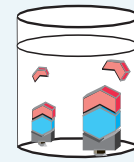


3. Add protein mixture.



4. Wash.

Mild detergent removes unbound or low binding proteins. Soaking can improve wash effectiveness.

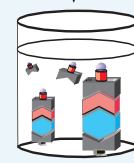


5. Add primary antibody to specific protein.

Dilution of primary antibody in diluent/blocking solution used to block plate minimizes non-specific binding to plate.

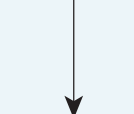


6. Wash.

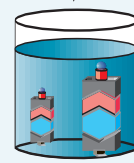


7. Add enzyme-labeled secondary antibody.

Specificity and sensitivity of antibody conjugate are critical to assay performance. Stabilizers maintain activity of conjugates.

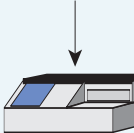


8. Wash.



9. Add enzyme substrate.

Substrate sensitivity, background, and stability are essential to ELISA performance.



10. Stop substrate reaction and read.

Stopped substrate reactions provide consistent endpoint analysis and flexibility as to when assay results are recorded.

KPL ELISA products help you to optimize your assay and SEE MORE!



Flower Mantis

See more with KPL ELISA products —
Get higher signal and lower background.

ELISA Substrates

Substrates are the cornerstones for developing ELISAs with high signal and low background. KPL, one of the first companies to produce stable, liquid substrates, offers a variety of standard and proprietary HRP and AP substrates. See Table 1 for a listing of chromogenic and chemiluminescent substrates.

Chromogenic Peroxidase Substrates

Choose from among three TMB (3,3',5,5'-tetramethylbenzidine) products and two ABTS (2,2"-azino-di-(3-ethylbenzthiazoline-6-sulfonate) formulations. All provide guaranteed performance and reliability.

Excellent Signal-to-Noise with SureBlue™

- High sensitivity
- Consistent lot-to-lot performance minimizes assay re-optimization
- 2-year stability

KPL's SureBlue TMB Microwell Substrate is a 1-component formulation. It develops a deep blue soluble product when reacted with HRP-labeled conjugates. SureBlue TMB provides excellent signal-to-noise,

stability, and consistency, making it the ideal substrate for use in most ELISA applications.

Superior Sensitivity with SureBlue Reserve

- Highest sensitivity: 50% more sensitive than SureBlue TMB (Figure 1)
- Consistent lot-to-lot performance minimizes assay re-optimization
- 2-year stability
- Ready-to-use 1-component formulation

SureBlue Reserve TMB takes ELISA to a new performance level. It offers maximum sensitivity with exceptionally low background enabling detection of low levels of target protein. SureBlue Reserve TMB provides the same great benefits as KPL's original SureBlue TMB: low lot-to-lot variation, 2-year stability, ready-to-use 1-component solution, and excellent linearity.

TMB Microwell Substrate in a Highly Stable 2-Component Formulation

- Longest shelf life due to the 2-component system
- Higher sensitivity than ABTS

TMB Microwell 2-Component Substrate offers excellent stability and sensitivity. It is the most economical choice when ready-to-use convenience is not required. Like other TMB substrates, it rapidly develops a deep blue color that is measurable at 650 nm.

Broad Dynamic Range with ABTS Microwell Substrates

- Excellent linearity; provides the widest working range of any chromogenic HRP substrate
- Extremely stable
- Ideal for kinetic assays

KPL's ABTS Microwell Substrates offer performance, low background, and a wider linear range than other chromogenic substrates. Supplied either as a ready-to-use formulation or as an extremely stable 2-component product, ABTS substrates develop an intense blue-green color in the presence of peroxidase-labeled conjugates. ABTS is recommended when low background is required and moderate sensitivity is acceptable.

Table 1. KPL Protein Detector ELISA Substrates

	Sensitivity	Stability	Convenience	Enzyme	Detection	Determination
LumiGLO Reserve	•••••	••	•••	HRP	Chemi	Endpoint
LumiGLO	••••	••	•••	HRP	Chemi	Endpoint
SureBlue Reserve	•••	•••	•••••	HRP	Chromo	Kinetic or Endpoint
SureBlue	••	•••	•••••	HRP	Chromo	Kinetic or Endpoint
TMB 2-C	••	••••	•••	HRP	Chromo	Kinetic or Endpoint
ABTS 1-C	•	••••	•••••	HRP	Chromo	Kinetic or Endpoint
ABTS 2-C	•	•••••	•••	HRP	Chromo	Kinetic or Endpoint
BluePhos	••	••	•••	AP	Chromo	Kinetic or Endpoint
pNPP	•	•••••	•	AP	Chromo	Kinetic or Endpoint

C=Component • Lowest ••••• Highest

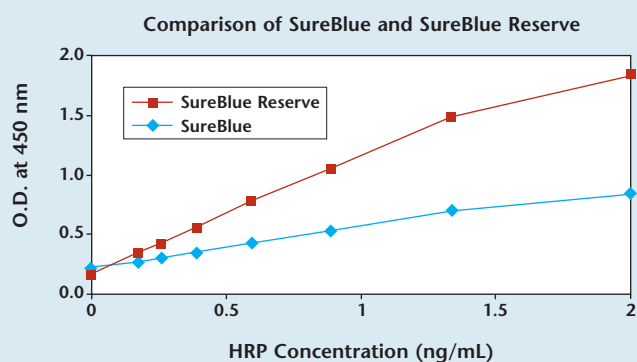


Figure 1. Dilutions of HRP conjugate were added to microplate wells and the conjugate in each well reacted with either SureBlue or SureBlue Reserve. The reactions were stopped with TMB Stop Solution, and optical density readings were taken at 450 nm. Data points represent the average of triplicate samples at each HRP concentration. The data demonstrate greater sensitivity of SureBlue Reserve at low concentrations of HRP.

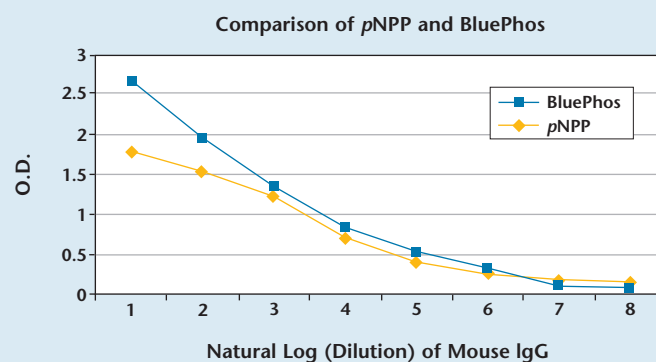


Figure 2. Microplate wells were coated in duplicate using serial dilutions of mouse IgG starting at a dilution of 10 µg/mL. AP-labeled goat anti-mouse IgG was added to each well at a concentration of 500 ng/mL; reactions were initiated by addition of either BluePhos substrate or pNPP to each of the duplicate wells. The reactions were stopped and each was read at its requisite wavelength (630 nm for BluePhos, 405 nm for pNPP). The data demonstrate greater sensitivity and better linearity of BluePhos.

Chemiluminescent Peroxidase Substrates

LumiGLO® and LumiGLO Reserve Chemiluminescent Peroxidase Substrates are luminol-based substrates. In the presence of hydrogen peroxide, HRP converts luminol to an excited intermediate dianion which emits light on return to its ground state. Positive reactions in microwell plates are rapidly detected and read with a luminometer. Both substrates are supplied as 2-component liquids.

Maximum Sensitivity with LumiGLO Reserve

- Unsurpassed sensitivity
- Excellent stability

KPL's most sensitive ELISA substrate, LumiGLO Reserve, is an excellent choice where enhanced sensitivity is critical to success, e.g., analysis of limited or hard-to-detect protein samples. LumiGLO Reserve allows precious materials to be conserved while maintaining sensitivity.

Wide Dynamic Range with LumiGLO®

- Fast ramp-up of signal
- Stable for 24 hours after mixing
- Light emission sustained for 1-2 hours
- Exceptional shelf stability and lot-to-lot consistency

LumiGLO Chemiluminescent Substrate is designed for the rapid and sensitive detection of peroxidase-labeled conjugates. The working range of primary antibody that yields an acceptable signal-to-noise ratio is much wider using LumiGLO than with chromogenic substrates.

Alkaline Phosphatase Substrates

For economical chromogenic alkaline phosphatase substrates that provide sensitivity and convenience, choose KPL's pNPP Substrate or BluePhos® Substrate.

Economy and Performance with pNPP

- Wide linear range
- Excellent stability

pNPP Phosphatase Substrate contains para-nitrophenylphosphate. Both kinetic and endpoint determinations can be performed using pNPP. It is available in tablet form with a separate buffer solution making it shelf stable.

Excellent Overall Performance with BluePhos®

- Ideal for applications where sensitivity greater than pNPP is required
- Stable for 24 months
- Convenient and quick: only 2 solutions to mix
- Wider dynamic range than pNPP
- Lower background than pNPP

BluePhos Microwell Substrate is an ideal substrate for use with phosphatase-labeled conjugates, offering greater sensitivity and better linearity of signal over pNPP (Figure 2). It is a soluble, proprietary form of 5-bromo-4-chloro-3-indolyl phosphate (BCIP). It develops an intense blue color which can be used for both kinetic and endpoint ELISAs.

ELISA Antibody Conjugates

Choose from a wide selection of secondary antibodies to immunoglobulins from over 20 animal species labeled with horseradish peroxidase or alkaline phosphatase, the most widely used enzymes for ELISA signal generation. HRP has been shown to be more sensitive than AP primarily due to its faster catalytic rate. However, HRP reactions may be self-limiting due to substrate inhibition of enzyme. In contrast, AP exhibits a slower catalytic rate, but is not self-limiting. Reaction rates remain linear over long periods of time; therefore, sensitivity can be improved by allowing the reaction to proceed for a longer time.

Whatever enzyme conjugate you choose, all antibody conjugates are of the same exceptionally high quality you have come to expect from KPL. As always, you get results with high signal-to-noise.

Universal ELISA Kits

KPL's Protein Detector ELISA Kits are designed to be an excellent and convenient starting point for development of ELISA protocols. Each kit contains all the reagents necessary to establish an ELISA procedure except for primary antibodies. The kits also include a comprehensive manual to facilitate assay development.

HRP ELISA Kits

KPL's Protein Detector HRP ELISA Kits contain goat anti-mouse IgG and anti-rabbit IgG, or anti-human IgG HRP conjugates along with ABTS substrate, blocking, coating, substrate, stop and wash solutions.

AP ELISA Kits

Included in the Protein Detector AP ELISA kits are goat anti-mouse IgG, anti-rabbit IgG, or anti-human IgG AP conjugates as well as BluePhos substrate, blocking, coating, stop and wash solutions.

ELISA Support Reagents

KPL's support reagents are optimized for use in microwell ELISA and tested to verify that they meet strict specifications. They include conjugate stabilizers, diluents, blocking and wash solutions, and stop reagents. Blocking and wash solutions have been designed to reduce background and to ensure a clear signal. KPL stabilizers provide convenient storage solutions for your antibody-enzyme conjugates and ensure their performance.

Spend your time developing your assay instead of worrying about making reagents. Choose time-tested, stable support reagents from KPL.

See More...

Try KPL's ELISA Kits and Reagents

KPL has extensive experience in antibody purification and the development of stable liquid substrates. This long-standing expertise is the foundation of our line of Protein Detector ELISA systems and ensures reliable product performance from lot-to-lot.

Try our kits and reagents and get the results you're looking for: a strong, clean signal without background, every time.

Your eyes aren't playing tricks on you. You've found the finest line of ELISA systems and reagents at KPL.

LumiGLO and BluePhos are registered trademarks and LumiGLO Reserve, SureBlue Reserve, SureBlue and Protein Detector are trademarks of KPL, Inc.



Catalog #	Description	Size
Protein Detector ELISA Kits		
Each kit includes an AP- or HRP-labeled Conjugate, Coating Solution, Wash Solution Concentrate, 10% BSA Diluent/Blocking Solution Concentrate, Stop Solution and Substrate.		
Phosphatase		
55-81-10	AP ELISA Kit, Anti-Human	20 plates
55-81-50	AP ELISA Kit, Anti-Rabbit and Anti-Mouse	20 plates
Peroxidase		
54-62-10	HRP ELISA Kit, Anti-Human	20 plates
54-62-18	HRP ELISA Kit, Anti-Mouse	20 plates
54-62-15	HRP ELISA Kit, Anti-Rabbit	20 plates
Substrates for ELISA		
Phosphatase Chromogenic Substrates		
50-88-02	BluePhos Microwell Substrate Kit	50 mL
50-88-00	<i>Same as above</i>	600 mL
50-88-01	<i>Same as above</i>	2.7 L
50-80-00	pNPP Phosphatase Substrate System	500 mL
50-80-01	pNPP Phosphatase Tablets	100 tablets
Peroxidase Chromogenic Substrates		
52-00-01	SureBlue TMB 1-Component Substrate	100 mL
52-00-02	<i>Same as above</i>	400 mL
52-00-03	<i>Same as above</i>	1 L
53-00-01	SureBlue Reserve TMB 1-Component Substrate	100 mL
53-00-02	<i>Same as above</i>	400 mL
53-00-03	<i>Same as above</i>	1 L
50-76-00	TMB 2-Component Substrate Kit	600 mL
50-76-03	<i>Same as above</i>	2.7 L
Peroxidase Chemiluminescent Substrates		
54-61-00	LumiGLO Chemiluminescent Substrate Kit	240 mL
54-61-01	<i>Same as above</i>	720 mL
54-61-02	<i>Same as above</i>	60 mL
54-71-00	LumiGLO Reserve Chemiluminescent Substrate Kit	2400 cm ²
54-71-01	<i>Same as above</i>	600 cm ²

Catalog #	Description	Size
Antibody Conjugates		
All antibodies listed below are produced in goat. For a complete antibody listing, visit www.kpl.com or refer to KPL's Product Catalog.		
Phosphatase		
075-1006	Anti-Human IgG (H+L)	1.0 mg
075-1806	Anti-Mouse IgG (H+L), HSA	1.0 mg
075-1506	Anti-Rabbit IgG (H+L)	1.0 mg
Peroxidase		
074-1006	Anti-Human IgG (H+L)	1.0 mg
074-1806	Anti-Mouse IgG (H+L), HSA	1.0 mg
074-1506	Anti-Rabbit IgG (H+L)	1.0 mg
Biotin-Labeled		
16-10-06	Anti-Human IgG (H+L)	0.5 mg
16-18-06	Anti-Mouse IgG (H+L), HSA	0.5 mg
16-15-06	Anti-Rabbit IgG (H+L)	0.5 mg
Labeled Streptavidin		
15-30-00	AP-labeled	0.5 mg
14-30-00	HRP-labeled	0.5 mg
Assay Support Reagents		
50-84-00	Coating Solution Concentrate	50 mL
50-63-00	Wash Solution Concentrate	800 mL
Blocking Solutions		
50-61-00	10% BSA Diluent/Blocking Solution	200 mL
50-61-10	10% BSA Diluent/Blocking Solution	1 L
50-82-01	Milk Diluent/Blocking Solution	200 mL
Conjugate Stabilizers		
55-15-00	APStabilizer	200 mL
54-15-01	HRPStabilizer	200 mL
Stop Solutions		
50-85-01	ABTS Stop Solution	200 mL
50-89-00	BluePhos Stop Solution	200 mL
50-85-05	TMB Stop Solution	400 mL
50-85-06	TMB Stop Solution	1 L
HSA: <i>Human serum adsorbed</i>		

Take a closer look at our ELISA product line. To order, call 800.638.3167 or 301.948.7755, fax 301.948.0169 or contact your local KPL distributor.



Where Better Science Begins



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