

PC-13002A  
L2013-12896

## Innovative Chemiluminescent Detection Technologies



**LUMIGEN**

A Beckman Coulter Company

*Chemistry that brings meaning to light.*

# Lumigen *Chemistry that brings meaning to light.*

Lumigen is one of the worlds largest suppliers of chemiluminescent reagents to the clinical immunodiagnostics market. Lumigen, located in Southfield, Michigan, was founded in 1987 to research, develop, manufacture and market novel chemiluminescent compounds for use in life science research and medical diagnostics. Lumigen's chemiluminescent reagents are used worldwide in automated systems for the chemiluminescent detection of alkaline phosphatase conjugates and for ultra-sensitive chemiluminescent ELISA assays and Western blotting detection of horseradish peroxidase conjugates in life science research.

At Lumigen, it is our goal to continually be at the forefront of the development of innovative new detection technologies for the clinical laboratory and life science research communities. This commitment to innovation is reflected in the current generation of products and in the development of still other exciting new technologies currently under way.

## Innovative Chemiluminescent Detection Technologies



# Lumigen ECL Plus *Western Blotting HRP Substrate*

Lumigen ECL Plus (PS-3) is a novel acridan-based chemiluminescent and chemifluorescent substrate for sensitive detection of Western blotted proteins.

- ✦ **Highly sensitive** – approximately 5 pg per band of target protein on Western blot
- ✦ **Sustained luminescence** – signal is sustained for over several hours
- ✦ **Dual signal functionality** – chemiluminescent and chemifluorescent signals are generated simultaneously allowing detection on x-ray film or with a digital imager

## Product Specifications

<b>Enzyme</b>	Horseradish Peroxidase (HRP)
<b>Application</b>	Western Blotting
<b>Sensitivity</b>	Low picogram to mid femtogram

## Ordering Information

Description	Catalog Number
<b>Lumigen ECL Plus (100 mL)</b>	<b>PS3-100</b>



# Lumigen ECL Extra *Western Blotting HRP Substrate*

Lumigen ECL Extra (TMA-3) is a proprietary acridan based chemiluminescent substrate for highly sensitive detection of Western blotted and ELISA captured proteins.

- ✦ **Very rapid onset of chemiluminescence** – images can be recorded in seconds
- ✦ **Sustained signal duration** – over several hours allows convenient imaging
- ✦ **Reduced antibody usage** – more than 10-fold reduction in the usage of expensive antibody conjugates
- ✦ **Temperature insensitive** – analytical results are insensitive to temperatures from 22°C - 35°C reducing the need for precise temperature control

## Product Specifications

Enzyme	Horse radish Peroxidase (HRP)
Application	Western Blotting and ELISA
Sensitivity	Low picogram to mid femtogram

## Ordering Information

Description	Catalog Number
Lumigen ECL Extra (100 mL)	TM3-100
Lumigen ECL Extra (1L)	TM3-1000



# Lumigen ECL Ultra *Western Blotting HRP Substrate*

Lumigen ECL Ultra (TMA-6) is a proprietary acridan based chemiluminescent substrate for ultra-sensitive detection of Western blotted and ELISA captured proteins.

- ✦ **Very rapid onset of chemiluminescence** – images can be recorded in seconds
- ✦ **Sustained signal duration** – over several hours allows convenient imaging
- ✦ **Highest sensitivity** – sub-picogram quantities of antigens can be detected
- ✦ **Reduced antibody usage** – more than 10-fold reduction in the usage of expensive antibody conjugates

## Product Specifications

Enzyme	Horseradish Peroxidase (HRP)
Application	Western Blotting and ELISA
Sensitivity	Mid to low femtogram

## Ordering Information

Description	Catalog Number
Lumigen ECL Ultra (100 mL)	TMA-100
Lumigen ECL Ultra (1 L)	TMA-1000



# Lumi-Phos Plus *Blotting AP Substrate*

Lumi-Phos Plus is a novel, ready-to-use chemiluminescent reagent formulation containing the alkaline phosphatase (AP) substrate, Lumigen PPD and a patented enhancer. Lumi-Phos Plus is recommended for either direct chemiluminescent detection of alkaline phosphatase (AP) labeled nucleic acids or indirectly to detect hapten labeled nucleic acids probed with specific anti-hapten antibodies conjugated with AP on a Southern blot membrane or any other solid surface.

- ✦ **Excellent sensitivity** – single copy gene detection
- ✦ **High intensity light production** – with low background
- ✦ **Sustained luminescence** – with low concentrations of AP the light intensity remains constant for several hours

## Product Specifications

<b>Enzyme</b>	Alkaline Phosphatase (AP)
<b>Application</b>	Southern and Northern Blotting, Dot Blots, cDNA Arrays, Colony and Plaque Probing
<b>Sensitivity</b>	Single copy gene detection on genomic Southern blot

## Ordering Information

Description	Catalog Number
<b>Lumi-Phos Plus</b> (100 mL)	<b>P-701</b>
<b>Lumi-Phos Plus</b> (1 L)	<b>P-7000</b>



# Lumi-Phos 530 *ELISA AP Substrate*

Lumi-Phos 530 is a ready-to-use chemiluminescent reagent formulation containing the alkaline phosphatase (AP) substrate, Lumigen PPD. Lumi-Phos 530 is useful for chemiluminescent detection of AP conjugates in immunoassays and DNA probe assays. It provides ultra-sensitive detection of analytes captured on magnetic particles and in microtiter plate wells.

- ✦ **Excellent sensitivity** – 10,000 times more sensitive than colorimetric substrates in solution
- ✦ **Sustained luminescence** – with low concentrations of AP the light intensity remains constant for several hours
- ✦ **Linear calibration curves** – the luminescence intensity at any time point is a direct measure of the concentration of the enzyme

## Product Specifications

<b>Enzyme</b>	Alkaline Phosphatase (AP)
<b>Application</b>	Microtiter well and bead-based ELISA assays
<b>Sensitivity</b>	Low picogram to femtogram

## Ordering Information

Description	Catalog Number
<b>Lumi-Phos 530</b> (100 mL)	<b>P-501</b>
<b>Lumi-Phos 530</b> (1 L)	<b>P-5000</b>



# Lumigen APS-5 *ELISA AP Substrate*

Lumigen APS-5 is a proprietary acridan based chemiluminescent substrate for ELISA detection of alkaline phosphatase (AP) conjugated molecules. The unique acridan chemistry of Lumigen APS-5 provides temperature insensitive light output and more rapid peak intensity as compared to the dioxetane based AP substrates, Lumi-Phos 530 and Lumi-Phos Plus.

- ✦ **Excellent sensitivity** – Less than 5 pg of protein target
- ✦ **Rapid peak intensity** – reduced assay time and increased throughput
- ✦ **Temperature insensitive** – analytical results are insensitive to temperatures from 22°C - 35°C reducing the need for precise temperature control

## Product Specifications

Enzyme	Alkaline Phosphatase (AP)
Application	ELISA
Sensitivity	Low picogram to femtogram

## Ordering Information

Description	Catalog Number
Lumigen APS-5 (100 mL)	AP5-101
Lumigen APS-5 (1 L)	AP5-1000





# Lumi-Phos HRP

*ELISA HRP Substrate*

Lumi-Phos HRP (PS-atto) is a proprietary acridan based chemiluminescent substrate for ELISA detection of horseradish peroxidase (HRP) conjugated molecules. Lumi-Phos HRP couples a broad dynamic range with rapid generation of sustained luminescence.

- ✦ **Excellent sensitivity** – less than 5 pg/mL of target protein in plate based ELISA
- ✦ **Rapid peak intensity** – reduced assay time and increased throughput
- ✦ **Sustained luminescence** – timing is less critical
- ✦ **Temperature insensitive** – analytical results are insensitive to temperatures from 22°C - 35°C reducing the need for precise temperature control

## Product Specifications

**Enzyme** Horseradish Peroxidase (HRP)

**Application** ELISA

**Sensitivity** Low picogram to femtogram

## Ordering Information

**Description** Catalog Number

**Lumi-Phos HRP (100 mL)** **PSA-100**

**Lumi-Phos HRP (1 L)** **PSA-1000**



# Lumigen SPARCL *Homogeneous Immunoassay*

Lumigen SPARCL (Spatial Proximity Analyte Reagent Capture Luminescence) is a novel homogeneous close proximity assay technology which eliminates solid support, wash steps and separation of bound from unbound analytes to allow for the completion of assays in as little as half an hour. SPARCL can be used for ELISA and many other close proximity applications such as protein-protein and protein-nucleic acid interactions.

- ✦ **Complete assays in less than 30 minutes**
- ✦ **Only one short incubation step required for antigen-antibody binding**
- ✦ **Eliminate wash steps and disposal of unnecessary waste from wash solution**
- ✦ **Flash chemiluminescence for instantaneous signal detection**

## Product Specifications

<b>Enzyme</b>	Horseradish Peroxidase (HRP)
<b>Application</b>	ELISA, Proximity Assays
<b>Sensitivity</b>	Low picogram

## Ordering Information

Description	Catalog Number
Lumigen SPARCL	SDK-10K



# Lumigen HyPerBlu *Hydrogen Peroxide Detection*

Lumigen HyPerBlu is a novel substrate for the direct chemiluminescent detection of hydrogen peroxide without the need for HRP enzyme. Reaction of the substrate with hydrogen peroxide rapidly generates sustained high-intensity luminescence for maximum detection sensitivity in solution assays. Coupled with oxidases, HyPerBlu allows one-step indirect detection of oxidases or their substrates.

- ✦ **Excellent sensitivity in solution assays**
- ✦ **Broad dynamic range with bright sustained chemiluminescence**
- ✦ **Single ready-to-use reagent formulation for convenience**

## Product Specifications

<b>Detection</b>	Hydrogen Peroxide (directly) Glucose or Glucose Oxidase (indirectly)
<b>Sensitivity</b>	2.6 nM Hydrogen Peroxide

## Ordering Information

Description	Catalog Number
<b>Lumigen HyPerBlu (5 mL)</b>	<b>HPB-00005</b>
<b>Lumigen HyPerBlu (50 mL)</b>	<b>HPB-0050</b>
<b>Lumigen HyPerBlu (100 mL)</b>	<b>HPB-100</b>
<b>Lumigen HyPerBlu (1 L)</b>	<b>HPB-1000</b>
<b>Lumigen HyPerBlu (5 L)</b>	<b>HPB-5000</b>
<b>Lumigen HyPerBlu (10 L)</b>	<b>HPB-10000</b>
<b>Lumigen HyPerBlu (15 L)</b>	<b>HPB-15000</b>



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## Lumigen Product Selection Guide

	Lumigen ECL Plus	Lumigen ECL Extra	Lumigen ECL Ultra	Lumi-Phos Plus	Lumi-Phos 530	Lumigen APS-5	Lumi-Phos HRP	Lumigen SPARCL	Lumigen HyPerBlu
<b>Application</b>	Western Blotting	Western Blotting	Western Blotting	Southern Northern Blotting	ELISA	ELISA	ELISA	ELISA, Other Proximity Assays	H <sub>2</sub> O <sub>2</sub> Detection
<b>Enzyme</b>	HRP	HRP	HRP	AP	AP	AP	HRP	HRP	Direct, Non-enzymatic
<b>Sensitivity</b>	Low pg to mid fg	Low pg to mid fg	Mid to low fg	Single Copy Gene Detection	Low pg to fg	Low pg to fg	Low pg to fg	Low pg	2.6 nM
<b>Signal Duration</b>	Up to 5 Hours	Up to 6 Hours	Up to 8 Hours	Up to 24 Hours	Up to 24 Hours	Up to 4 Hours	Up to 5 Hours	Instantaneous Flash	Up to 8 Hours
<b>Shelf Life</b>	2 Years	1 Year	1 Year	2 Years	2 Years	1 Year	1 Year	1 Year	2 Years
<b>Storage Conditions</b>	2 - 8° C	2 - 8° C	2 - 8° C	2 - 8° C	2 - 8° C	2 - 8° C	2 - 8° C	2 - 8° C	2 - 8° C

Please visit [www.LUMIGEN.com](http://www.LUMIGEN.com) to place an order or request a quote.

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