

## SearchLight® Infrared Array Advantages

SearchLight® Arrays have traditionally been chemiluminescent plate-based assays, offering sensitive chemiluminescent detection, the quantification of up to 16 proteins per well, compatibility with plate-based automation and a large menu of assays available for custom arrays run in a researcher's laboratory or through our sample testing service.

The new SearchLight® Infrared Arrays offer several unique advantages:

**Ability to measure more proteins per well** – Researchers can test up to 24 different proteins per well, increasing the data generated from limited sample in just one assay.

**Broader dynamic range for some analytes** – Because the top standard is higher for many analytes, fewer sample dilutions are required.

**Ability to read plates hours, days or weeks later** – This is a key advantage for researchers using an instrument in another laboratory or for researchers running many assays per day.



## SearchLight® IR Array Ordering Information

Product #	Product Description	Analytes
84501B	Human IR Cytokine Array, 12-plex	IL-1 $\alpha$ , IL-1 $\beta$ , IL-2, IL-4, IL-5, IL-6, IL-8, IL-10, IL-12p70, IL-13, IFN $\gamma$ , TNF $\alpha$
84502B	Human IR Cytokine Array, 4-plex	IL-1 $\beta$ , IL-6, IFN $\gamma$ , TNF $\alpha$
84503B	Mouse IR Cytokine Array, 12-plex	IL-1 $\alpha$ , IL-1 $\beta$ , IL-2, IL-4, IL-5, IL-6, KC, IL-10, IL-12p70, IL-13, IFN $\gamma$ , TNF $\alpha$
84504B	Mouse IR Cytokine Array, 4-plex	IL-1 $\beta$ , IL-6, IFN $\gamma$ , TNF $\alpha$

## SearchLight® Custom Arrays

Design your own custom array from our growing menu of assays. The lead time is two to eight weeks, depending upon the proteins selected. The minimum order size is five kits.

For an up-to-date product listing or for information on custom arrays, call 781-970-0350, e-mail [searchlight@perbio.com](mailto:searchlight@perbio.com) or visit [www.endogen.com/searchlight](http://www.endogen.com/searchlight).

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**ENDOGEN®**

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# ENDOGEN®

## SearchLight® Infrared Protein Arrays

Quantify  
24 different  
proteins in a  
single well

Product Highlights • SearchLight® Technology • Product Performance & Data • Ordering Information

# SearchLight® Quantitative Protein Arrays

## SearchLight® Technology

The new SearchLight® Infrared Arrays are created by spotting up to 24 different capture antibodies per well in each well of a 96-well plate. Following a traditional sandwich ELISA procedure and addition of streptavidin conjugated to an infrared dye, the plate is scanned using the Odyssey® or Aeries® Infrared Imaging Systems.\* The intensity of each spot is calculated using specialized array software. Protein concentrations in a sample are then quantified by comparing the intensity of the spots in the unknown sample well to the corresponding standard curves.

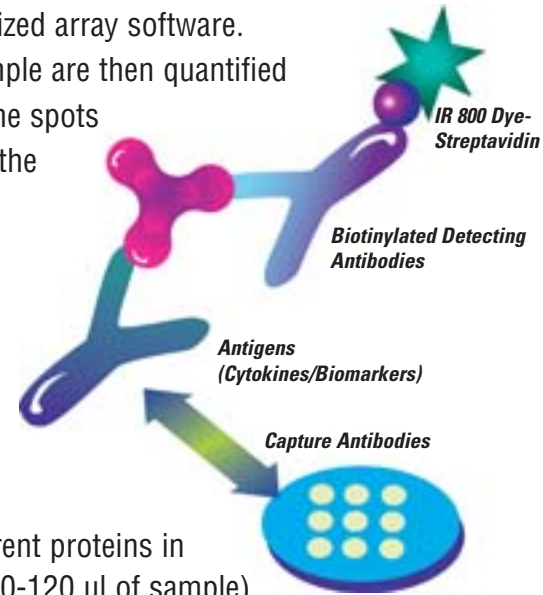


Figure 1. SearchLight® Infrared Array schematic.

## Product Highlights

- Efficient:** Measure 24 different proteins in each well (from 20-120 µl of sample)
- Quantitative:** Generate pg/ml protein values for each unknown sample
- Accurate:** Obtain highly specific data from validated arrays
- Stable:** Plates can be dried and scanned at a later date
- Flexible:** Choose from a growing menu of kits or design a custom array
- Compatible:** Scan plates with the Odyssey® or Aeries® Infrared Imaging System

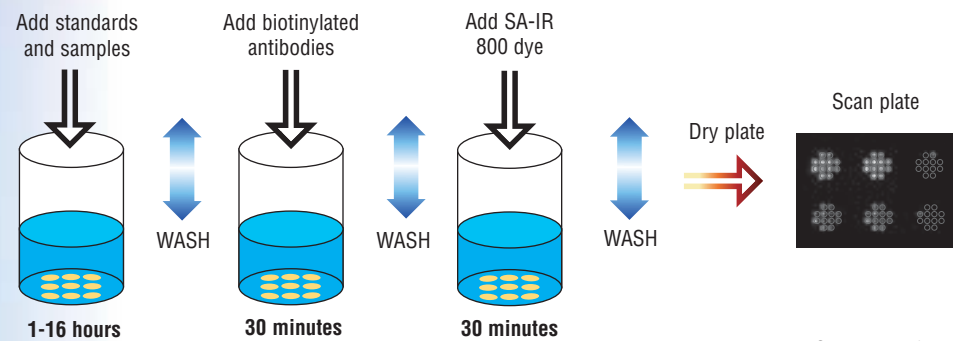


Figure 2. SearchLight® Infrared Array protocol.

## SearchLight® Product Performance

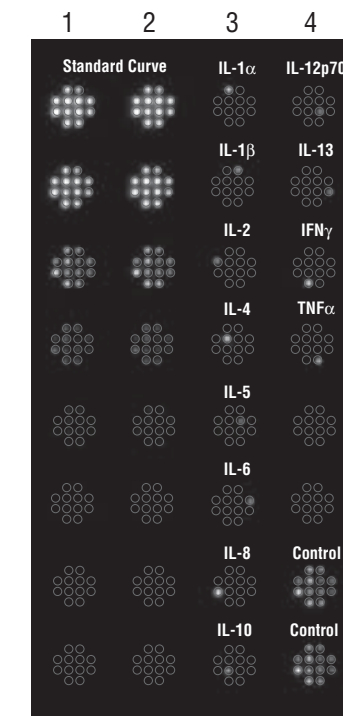


Figure 3. To test the specificity of the array, individual recombinant proteins were added to the array followed by a cocktail of biotinylated detecting antibodies. As shown in columns 3 and 4, signal is only present for the individual proteins added to the array.

SearchLight® Infrared Multiplex Assays offer accurate, reproducible data for multiple proteins per well. Each plate lot is carefully QC-checked for spotting consistency and tested for specificity to ensure there is no cross-reactivity or nonspecific binding associated with new antibody combinations (Figure 3). Each antibody pair in the SearchLight® Arrays has been titrated to provide the best possible sensitivity and dynamic range (Table 1). Pre-spotted plates and pre-diluted reagents are designed for optimal performance and ease-of-use.

Table 1. Standard curve range for each analyte in the human infrared cytokine array. The low value represents the low standard. Calculated sensitivity is lower for most analytes.

STANDARD CURVE RANGE			
Analyte	Human	Analyte	Human
IL-1α	2.7-2,000 pg/ml	IL-8	2.7-2,000 pg/ml
IL-1β	2.7-2,000 pg/ml	IL-10	0.7-500 pg/ml
IL-2	2.7-2,000 pg/ml	IL-12p70	2-1,500 pg/ml
IL-4	2.7-2,000 pg/ml	IL-13	13-10,000 pg/ml
IL-5	1.4-1,000 pg/ml	IFNγ	0.7-500 pg/ml
IL-6	1.4-1,000 pg/ml	TNFα	8-6,000 pg/ml

## SearchLight® Data

When cytokine values for septic patients were compared with age-matched controls, significantly elevated levels of IL-6, IL-8 and IL-10 were observed for > 80% of the septic patients (Figure 4). Using SearchLight® Multiplex Technology, researchers can begin to correlate profiles of cytokine or biomarker production to the presence of disease or to various stages of disease progression using a very limited amount of sample. Cytokine and biomarker profiles can be used to study biological pathways or evaluate effects of potential drug candidates.

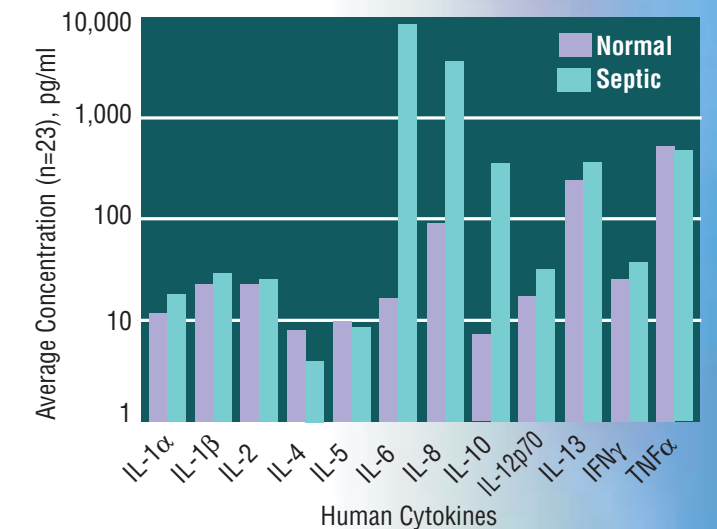


Figure 4. Twenty-three serum samples from septic patients and 23 age-matched serum controls were diluted 1:5 and 1:10 and tested in the SearchLight® Human IR Cytokine Array. For all but two samples (showing very high levels of IL-6 and IL-8), data from the 1:5 dilution was used to calculate pg/ml values for all 12 cytokines for each sample. Mean results (pg/ml) for the normal and septic samples are shown.

\*NOTE: IRDye 800CW Labeled Streptavidin from Li-Cor Biosciences (Product # 926-32230) is recommended for use with the SearchLight® Infrared Protein Arrays.