

Single-Color Labeling and Detection System

The Whatman® Single-Color Labeling and Detection Kit easily tags proteins for sensitive fluorescent detection, especially in protein microarray applications. A primary use is to label serum or cell lysate proteins in order to detect their binding to complementary antibodies in a single-capture antibody microarray, such as the Whatman Serum Biomarker Chip (product # 10486077).

Two kits are available, for serum proteins and for cell lysate proteins. They use Universal Linkage System (ULS™) chemistry from KREATECH® Biotechnology to derivatize proteins with Biotin. ULS can label Methionine, Cysteine and Histidine residues, resulting in excellent labeling of essentially all proteins. Unreacted ULS-Biotin is quickly and thoroughly removed with a ULS-Trap affinity column, minimizing nonspecific background fluorescence in the subsequent detection step.

Biotin-tagged proteins are allowed to bind to their antibodies or other complementary proteins and unbound material is rinsed away. Highly-fluorescent Streptavidin-DY™647 then binds to the Biotin-tagged proteins for easy, sensitive fluorescent detection.

Features:

- Highly efficient and uniform labeling of complex protein samples
- Reproducible labeling and signal detection
- Stable, robust and fast non-enzymatic process
- Broad pH range of labeling
- Compatible with most buffers, salts, detergents and reducing agents
- Labels multiple amino acids

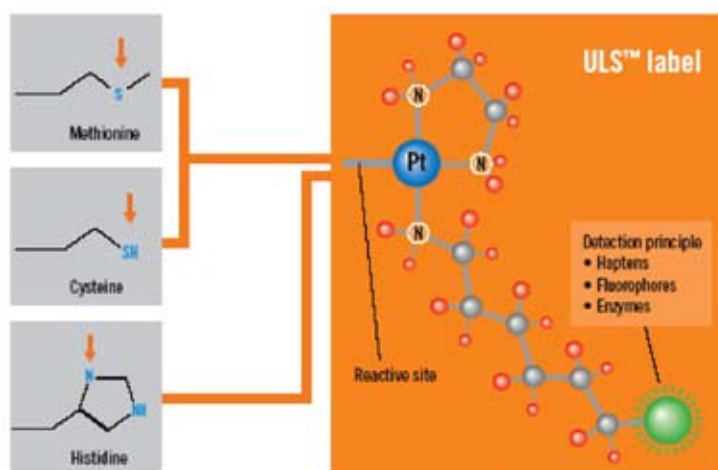


Figure 1. ULS labels proteins by forming coordinative bonds to sulfur atoms of Methionine and Cysteine residues and nitrogen atoms of Histidine (pH>4).



Used with Serum Biomarker Chip

An excellent use for the new kits is to label serum or cell lysate proteins for incubation with the Whatman Serum Biomarker Chip. This biomarker screening tool is an antibody array on a Whatman nitrocellulose FAST® slide, the binding surface of choice for protein arrays. These antibodies are specific for 120 human serum proteins reported to be useful biomarkers, especially in cancer studies. Labeled serum or lysate proteins from control and experimental samples are incubated with the antibody array in order to identify biomarkers differing between the two samples. These are then selected for more intensive studies.

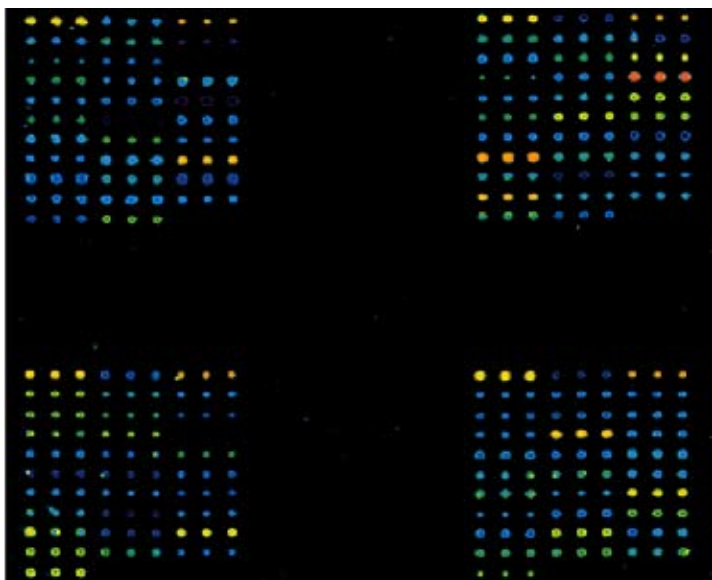


Figure 2. Fluorescent scan of a Serum Biomarker Chip pad probed with ULS-labeled serum proteins. (Colors represent fluorescent intensity.)

Contents:

Each kit contains materials for eight labeling and detection reactions:

Labeling buffer, Biotin-ULS, ULS-Trap affinity columns, Array blocking buffer, incubation buffers and blockers, and Streptavidin-DY647. The Cell Lysate Kit also contains extraction buffer.

Ordering Information:

10486243 Serum Protein Single-Color Labeling and Detection Kit for 8 x 2 µL Serum (~ 100 – 120 µg protein each)

10486244 Cell Lysate Protein Single-Color Labeling and Detection Kit for 8 x 60 µg protein.

Whatman is a leader in separations technologies for basic and biomedical research. Whatman offers products for the collection and capture of nucleic acids for a wide variety of molecular testing in the fields of forensics, biomedical, agricultural and basic research. For more information, visit the company's website at <http://www.whatman.com>.

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