

## **LumiDye™ SMCC Activated PE-Cy5 (SMCC-PE-Cy5)**

**M1491727**

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**Storage:** 2-8°C. Protect from light. Do not freeze.

**Size:** 250 µg/1 mg/5×1 mg.

### **Introduction**

LumiDye™ SMCC Activated PE-Cy5 (SMCC-PE-Cy5) is formed by modifying PE-Cy5 with Succinimidyl-4-(N-maleimidomethyl) cyclohexane-1-carboxylate (SMCC). It contains a maleimide group that reacts with thiol groups of target molecules, such as proteins. This product is commonly used in fluorescence microscopy, fluorescence immunoassays, dual or multicolor fluorescence analysis, cancer cell surface antigen detection, flow cytometry fluorescence assays, antibody fluorescence labeling, as well as diagnostics and biotechnology applications such as live cell imaging.

PE-Cy5 is a tandem fluorophore comprising R-Phycoerythrin and a red-shifted cyanine dye. The resonance energy transfer dye Cy5-Phycoerythrin (PE-Cy5) is an extremely bright dye, primarily because of the very low autofluorescence in the region where it fluoresces. It is easily excited at 488 nm, and emits at 670 nm.

This product is a purified conjugate of PE-Cy5 and SMCC. After purification to remove excess SMCC, it is dissolved in PBS-EDTA with 3% trehalose and ultimately supplied as a lyophilized powder. The long-term storage of this product does not affect its thiol reactivity, ensuring the optimal properties for conjugation with other thiol-containing molecules such as proteins.

### **Instruction for use**

This product is chemically activated for easy conjugation to biomacromolecules such as antibodies. These molecules contain cysteine residues. Disulfide bonds formed between cysteine residues can be treated with a reducing agent to release free thiol groups. Thiol groups can also be added to primary amine groups of biomacromolecule, such as a protein, through chemical reactions.

The optimal concentration for this product is 5 mg/mL. Add an appropriate volume of pure water (e.g., dissolve 1 mg of product in 200 µL of pure water), gently swirl the bottle to ensure complete dissolution of the dye, then proceed with labeling. Note: The SMCC-PE-Cy5 solution must be prepared fresh before each use.

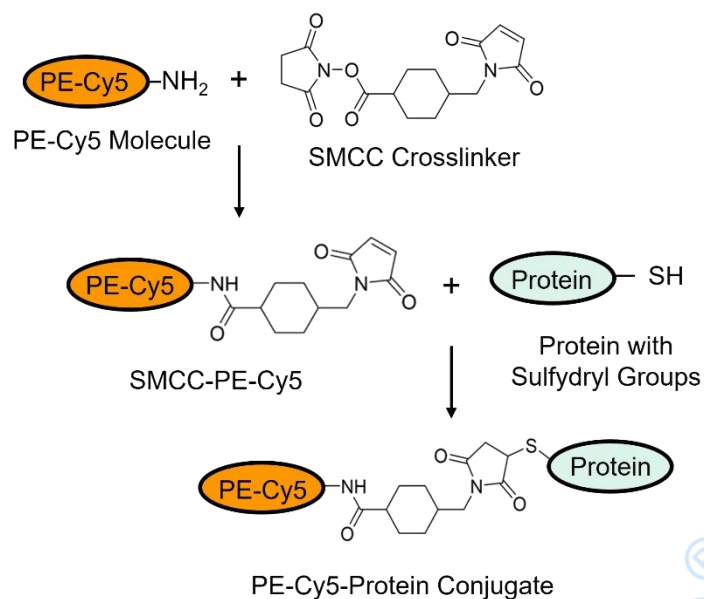


Figure 1. Schematic diagram of the conjugation of LumiDye™ SMCC Activated PE-Cy5 (SMCC-PE-Cy5) (M1491727) to proteins.

### Storage

Store at 4°C in the dark for up to 12 months. Do not store at -20°C or lower temperatures.

### Matters needing attention

1. Avoid using buffers containing primary amines and thiols during the reaction to minimize unnecessary competitive reactions.
2. Fluorescent dyes are prone to quenching. Please store and use them in the dark to slow down fluorescence quenching.
3. Products conjugated with the SMCC-PE-Cy5 should be stored at 4°C in the dark. Do not freeze.
4. During operation, always wear a lab coat, disposable gloves, and protective equipment.
5. All products are for research use only.