

LumiDye™ SMCC Activated HRP (SMCC-HRP)

M1491737

Storage: -20°C. Protect from light.

Size: 0.1 mg/1 mg.

Introduction

LumiDye™ SMCC Activated HRP (SMCC-HRP) is formed by modifying Horseradish Peroxidase (HRP) with Succinimidyl-4-(N-maleimidomethyl) cyclohexane-1-carboxylate (SMCC). SMCC-HRP generally contains several maleimide groups per HRP molecule while maintaining most of the HRP activity. After conjugation, the activated HRP will form a covalent interaction with the peptides or ligands containing sulfhydryl groups and can be used as a HRP probe for detection in different assays such as ELISA and western blot etc.

This product is a purified conjugate of HRP 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.

Two options are available: 0.1 mg and 1.0 mg. The optimal concentration is 10 mg/mL. For IgG labeling, the recommended mass ratio is IgG:HRP = 1:1, which corresponds to a molar labeling ratio of IgG:HRP = 1:3.5. Other proteins may be labeled using different molar ratios as needed.

Note: The SMCC-HRP solution must be prepared fresh before each use.

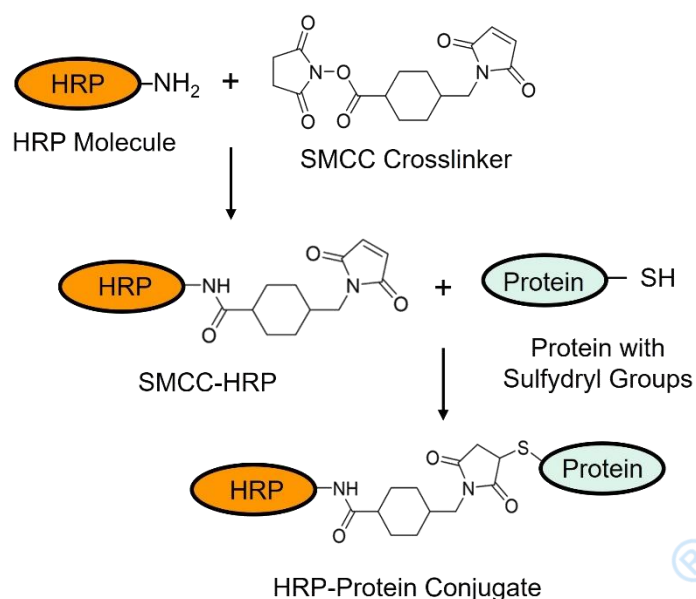


Figure 1. Schematic diagram of the conjugation of LumiDye™ SMCC Activated HRP (SMCC-HRP) (M1491737) to proteins.

Storage

Store at -20°C in the dark for up to 12 months.

Matters needing attention

1. Upon receipt of this product, it should be used immediately or stored according to the recommended conditions. With prolonged storage, the enzymatic activity and labeling capability of the Activated HRP may decrease to some extent.
2. The antibody or protein to be labeled should be dissolved in an amine-free buffer (e.g., MES, MOPS, HEPES, PBS) at a pH of 6.5–8.5. The solution must be free of preservatives such as sodium azide. If present, these must be removed via purification prior to the labeling reaction.
3. During operation, always wear a lab coat, disposable gloves, and protective equipment.
4. All products are for research use only.