

## Biotin C2 maleimide

Catalog number: 3005  
Unit size: 25 mg

Component	Storage	Amount
Biotin C2 maleimide	Freeze (<-15 °C)	1 vial (25 mg)

### OVERVIEW

Biotin and biotin derivatives bind with high affinity to both avidins and streptavidins. Biotin and its derivatives can be conjugated to many biomolecules without significantly altering the biological activity of the target molecules since biotin is relatively a small molecule. A biopolymer (such as proteins) can react with several molecules of biotin that, in turn, can each bind one avidin. This characteristic greatly increases the sensitivity of many biological assays. Biotin derivatives are widely used for biological detections and purification. This biotin derivative is used to modify thiol group.

### SAMPLE EXPERIMENTAL PROTOCOL

#### Labeling Proteins with Biotin C2 Maleimide

1. Dissolve your thiol-containing protein at concentration of 1 - 10 mg/mL (3 - 10 mg is the optimal labeling concentration) using PBS buffer (20 mM, pH 7.2).
2. Dissolve the Biotin C2 Maleimide in DMSO at a concentration of 5 - 10 mg/mL.
3. Mix the Biotin C2 Maleimide and protein solution at 2:1 molar ratio of biotin/protein, and shake the reaction mixture at room temperature for 2 - 4 hours.
4. Filter the reaction mixture through a protein spin column for 100 µg to 1 mg protein labeling reaction. If the reaction scale is larger than 1 mg, purify the conjugate using gel filtration on a properly sized Sephadex G-25 column.
5. Collect the desired fractions for your immediate use or freeze dry them for future use.

#### Labeling Small Molecules with Biotin C2 Maleimide

1. Dissolve Biotin C2 Maleimide (10 - 15 mg/mL) and your thiol-containing molecule in DMSO at 1:1.2 molar ratio of biotin/thiol-containing molecule.
2. Stir the reaction mixture at room temperature for 2 - 4 hours.
3. Purify the conjugate using HPLC (ammonium acetate/water and acetonitrile, pH 7.0).
4. Collect and pool the desired fractions.
5. Combine and freeze-dry the pooled fractions.

### EXAMPLE DATA ANALYSIS AND FIGURES

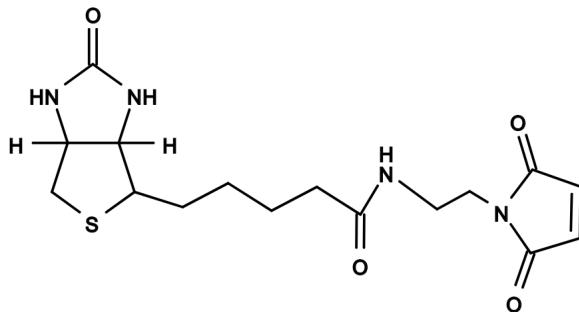


Figure 1. Chemical structure for Biotin C2 maleimide

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