

## Biocytin C2 maleimide

Catalog number: 3085  
Unit size: 5 mg

| Component             | Storage           | Amount (Cat No. 3085) |
|-----------------------|-------------------|-----------------------|
| Biocytin C2 maleimide | Freeze (< -15 °C) | 1 vial (5 mg)         |

### OVERVIEW

Biocytin maleimide readily reacts with thiol moieties of biopolymers to form a relatively stable thioether conjugate. This biocytin maleimide requires mild conjugation conditions. For example, a pH of 5.5-8.5 is usually optimal for modifying cysteine residues, and air exposure of the reaction solution should be minimized whenever possible to avoid the air oxidation of thiol substrates. Most conjugations are done at room temperature. However, either elevated or reduced temperature may be required for a particular labeling reaction. Reactions with this biotinylation reagent should be performed in buffers free of extraneous thiols (such as 6-mercaptoethanol, dithiothreitol, and mercaptoethylamine). To be biotinylated by thiol-reactive reagents, proteins or peptides must have a free thiol group (SH) available.

### SAMPLE EXPERIMENTAL PROTOCOL

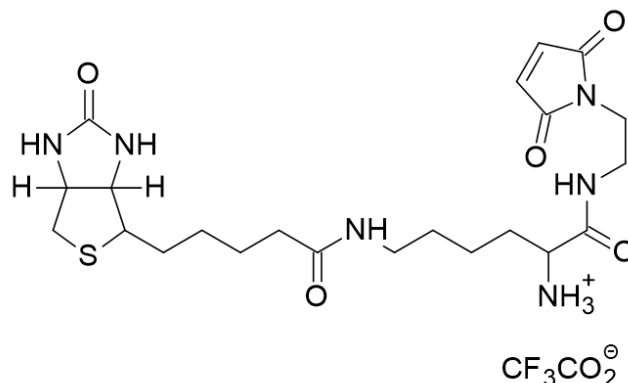
#### Labeling Proteins with Biocytin C2 Maleimide

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 Biocytin C2 Maleimide in DMSO at a concentration of 5 - 10 mg/mL.
3. Mix the Biocytin C2 Maleimide and protein solution at 2:1 molar ratio of biocytin/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 Biocytin C2 Maleimide

1. Dissolve Biocytin C2 Maleimide (10 - 15 mg/mL) and your thiol-containing molecule in DMSO at 1:1.2 molar ratio of biocytin/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 Biocytin C2 maleimide

### DISCLAIMER

AAT Bioquest provides high-quality reagents and materials for research use only. For proper handling of potentially hazardous chemicals, please consult the Safety Data Sheet (SDS) provided for the product. Chemical analysis and/or reverse engineering of any kit or its components is strictly prohibited without written permission from AAT Bioquest. Please call 408-733-1055 or email [info@aatbio.com](mailto:info@aatbio.com) if you have any questions.