

Biotinylated Ubiquitin

Cat. No. Ubiquitin-001 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Biotinylated ubiquitin was prepared by the action of biotinamidocaproic acid N-hydroxysuccinimide ester on ubiquitin.
Source	E.coli
Description	Ubiquitin is a small (8.5 kDa) regulatory protein found in most tissues of eukaryotic organisms, i.e. it occurs ubiquitously. It was discovered in 1975 by Gideon Goldstein and further characterized throughout the 1970s and 1980s. Four genes in the human genome code for ubiquitin: UBB, UBC, UBA52 and RPS27A. The addition of ubiquitin to a substrate protein is called ubiquitination or less frequently ubiquitylation. Ubiquitination affects proteins in many ways: it can mark them for degradation via the proteasome, alter their cellular location, affect their activity, and promote or prevent protein interactions. Ubiquitination involves three main steps: activation, conjugation, and ligation, performed by ubiquitin-activating enzymes (E1s), ubiquitin-conjugating enzymes (E2s), and ubiquitin ligases (E3s), respectively. The result of this sequential cascade is to bind ubiquitin to lysine residues on the protein substrate via an isopeptide bond, cysteine residues through a thioester bond, serine and threonine residues through an ester bond, or the amino group of the protein's N-terminus via a peptide bond.
Form	White solid
Purity	Mass spectral analysis shows presence of [biotinyl]1-5-ubiquitin with [biotinyl]2-4-ubiquitin being the predominate species.

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Applications

Biotinylated ubiquitin (prepared by the action of biotinamidocaproic acid N-hydroxysuccinimide ester on ubiquitin) is useful for studying ubiquitinylation in vitro, where it represents an alternative to radio-iodinated ubiquitin. This product contains a number of multiply biotinylated ubiquitin species, which has proven itself to be a reagent of considerable utility particularly for carrying out E1/E2-mediated thiolester assays.

Usage

In order to ensure full solubility it is recommended that the material be dissolved in 5 µL DMSO prior to dilution with the buffer of choice to the desired working concentration.

Storage

At -20 centigrade.

Storage Buffer

Lyophilized from Acetonitrile: water (1: 1).

Handling

Avoid freeze/thaw cycles.

GENE INFORMATION**Synonyms**

Ubiquitin

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