

## Product datasheet

# Recombinant human Ubiquitin protein (Biotin) ab189751

### Overview

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<b>Product name</b>	Recombinant human Ubiquitin protein (Biotin)
<b>Protein length</b>	Full length protein

### Description

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<b>Nature</b>	Recombinant
<b>Source</b>	Escherichia coli

### Amino Acid Sequence

<b>Accession</b>	<a href="#">P0CG47</a>
<b>Species</b>	Human
<b>Molecular weight</b>	9 kDa
<b>Additional sequence information</b>	Mutant with K63 only, N-terminal Biotin.
<b>Conjugation</b>	Biotin

### Specifications

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Our [Abpromise guarantee](#) covers the use of **ab189751** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<b>Biological activity</b>	Depending on desired signal strength and assay conditions, ab189751 should be used in conjunction with native ubiquitin at combined concentration range of 10-50 $\mu$ M with a 1:2 to 1:20 ratio of ab189751: native Ub, respectively. Typical amounts for a 20 $\mu$ L reaction: 250 ng to 2 $\mu$ g ab189751, 5 $\mu$ g native ubiquitin. Poly-ubiquitin chain visualization/quantitation can be performed via avidin-linked detection.
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<b>Applications</b>	Functional Studies SDS-PAGE
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<b>Purity</b>	>95% by SDS-PAGE .
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<b>Form</b>	Lyophilised
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<b>Additional notes</b>	Produced via a proprietary process resulting in a single biotin modification exclusively on the N-terminus of ubiquitin. This site-specific modification results in an ubiquitin that is fully functional at
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the C-terminus, and with the full compliment of reactive lysines to allow for polyubiquitin chain incorporation. Detection with avidin-linked reagents allows for a higher efficiency and detection sensitivity than with anti-ubiquitin antibodies. Ideal as an alternative to radio-labeled ubiquitin. This ubiquitin mutant contains only a single lysine (K63) with all other lysines mutated to arginine, and is able to form poly-ubiquitin chains with other ubiquitin molecules via the K63 lysine only.

## Preparation and Storage

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### Stability and Storage

Shipped at Room Temperature. Store at +4°C. Avoid freeze / thaw cycle.

This product is an active protein and may elicit a biological response in vivo, handle with caution.

### Reconstitution

Soluble in aqueous buffers up to 20 mg/ml. Store at -20°C once reconstituted.

## General Info

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### Relevance

Function: Ubiquitin exists either covalently attached to another protein, or free (unanchored). When covalently bound, it is conjugated to target proteins via an isopeptide bond either as a monomer (monoubiquitin), a polymer linked via different Lys residues of the ubiquitin (polyubiquitin chains) or a linear polymer linked via the initiator Met of the ubiquitin (linear polyubiquitin chains). Polyubiquitin chains, when attached to a target protein, have different functions depending on the Lys residue of the ubiquitin that is linked: Lys-6-linked may be involved in DNA repair; Lys-11-linked is involved in ERAD (endoplasmic reticulum-associated degradation) and in cell-cycle regulation; Lys-29-linked is involved in lysosomal degradation; Lys-33-linked is involved in kinase modification; Lys-48-linked is involved in protein degradation via the proteasome; Lys-63-linked is involved in endocytosis, DNA-damage responses as well as in signaling processes leading to activation of the transcription factor NF-kappa-B. Linear polymer chains formed via attachment by the initiator Met lead to cell signaling. Ubiquitin is usually conjugated to Lys residues of target proteins, however, in rare cases, conjugation to Cys or Ser residues has been observed. When polyubiquitin is free (unanchored-polyubiquitin), it also has distinct roles, such as in activation of protein kinases, and in signaling. Similarity: Belongs to the ubiquitin family. Contains 3 ubiquitin-like domains.

### Cellular localization

Cell Membrane, Cytoplasmic and Nuclear

**Please note:** All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

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