

PRODUCT INFORMATION



Ubiquitin (human, recombinant)

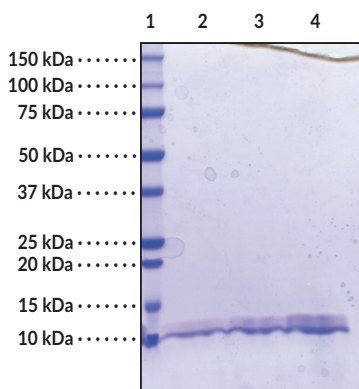
Item No. 20487

Overview and Properties

Source: Recombinant human ubiquitin expressed in *E. coli*
Amino Acids: 1-76
Uniprot No.: P0CG48
Molecular Weight: 8.5 kDa
Storage: -80°C (as supplied)
Stability: ≥2 years
Purity: *batch specific* (≥95% estimated by SDS-PAGE)
Supplied in: 50 mM Tris, pH 7.5, with 150 mM sodium chloride and 5% glycerol
Protein
Concentration: *batch specific* mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: Ubiquitin (2 µg)
Lane 3: Ubiquitin (4 µg)
Lane 4: Ubiquitin (8 µg)

Representative gel image shown; actual purity may vary between each batch.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Ubiquitin is a regulatory protein encoded by three gene classes in humans, which code for fusion proteins between ubiquitin and zinc-finger proteins, ribosomal proteins, or ubiquitin repeats that are cleaved by esterases to release monomeric ubiquitin.^{1,2} It is ubiquitously expressed and highly conserved among eukaryotic species. Ubiquitin is conjugated to misfolded, abnormal, short-lived, or foreign proteins by ubiquitin-conjugating enzymes (E2) and substrate-specific ubiquitin ligases (E3) to target them for degradation by the 26S proteasome or lysosome.^{1,3} It is also conjugated to proteins to modify cell signaling through regulation of protein-protein interactions, activity, or subcellular localization.³ Dysregulation of ubiquitination has been implicated in the pathogenesis of neurodegenerative diseases, including Parkinson's and Alzheimer's diseases.⁴ Cayman's Ubiquitin (human, recombinant) protein can be used as a substrate for enzyme activity assays.

References

1. Wilkinson, K.D. Roles of ubiquitylation in proteolysis and cellular regulation. *Annu. Rev. Nutr.* **15**, 161-189 (1995).
2. Bonifacino, J.S. and Weissman, A.M. Ubiquitin and the control of protein fate in the secretory and endocytic pathways. *Annu. Rev. Cell Dev. Biol.* **14**, 19-57 (1998).
3. Komander, D. and Rape, M. The ubiquitin code. *Annu. Rev. Biochem.* **81**, 203-209 (2012).
4. Ciechanover, A. and Brundin, P. The ubiquitin proteasome system in neurodegenerative diseases: Sometimes the chicken, sometimes the egg. *Neuron* **40(2)**, 427-446 (2003).

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