PRODUCT INFORMATION

Ubiquitin (human, recombinant; His-tagged)

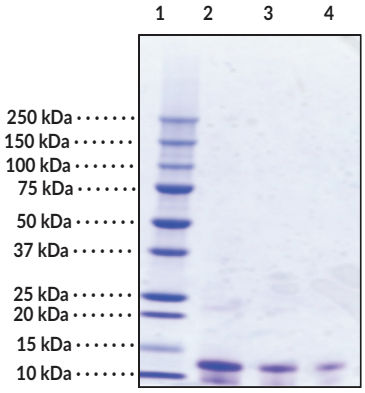
Item No. 20488

Overview and Properties

Source:	Recombinant human protein expressed in *E. coli*
Amino Acids:	1-112
Uniprot No.:	P0CG48
Molecular Weight:	12.7 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, 150 mM sodium chloride, containing 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 (10 µg)
Lane 3: Ubitquitn (5 µg)
Lane 4: Ubiquitin (2 µg)

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

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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; His-tagged) protein can be used as a substrate for enzyme activity assays, as well as for ELISA and Western blot (WB) applications.

References

1. Wilkinson, K.D. Roles of ubiquitinylation 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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