

## Recombinant Human Ubiquitin, G76A Mutation

Cat. No. RPS27A-18H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Recombinant Human Ubiquitin G76A, featuring a Gly76 to Ala76 mutation, is expressed in *E. coli*. The protein contains 76 amino acids and is purified by ion-exchange chromatography. The protein inhibits the ubiquitin hydrolases and prevents the removal of ubiquitin from protein ubiquitin conjugates.

**Species** Human

**Source** E.coli

**Description** The conserved 76 amino acid protein ubiquitin (Ub) regulates a host of intracellular processes through its enzymatic conjugation to other cellular proteins. Ubiquitination occurs through sequential steps catalyzed by activating (E1), conjugating (E2), and ligase (E3) enzymes. The final step results in the formation of an isopeptide bond between Ub's C-terminal glycine residue (G76) and a lysine residue of the target protein, although N-terminal ubiquitination is also known. Outcomes of this modification include destabilization of the conjugated protein, altered protein trafficking and functional modulation. After targeting the protein for specific localizations, ubiquitin is realised from the substrate by deubiquitinating enzymes. A mutant ubiquitin, having a Gly to Ala substitution at the C-terminus (G76A ubiquitin) supported several downstream reactions of the proteolytic pathway but inhibits the deubiquitination process. As consequence, the Ub derivative becomes irreversibly conjugated to protein, shifting the equilibrium between the bound and unbound form in the direction of conjugation, at the expense of the free form.

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<b>Formulation</b>	20g/24μ Diluted in PBS plus 5% glycerol.
<b>Purity</b>	95% by SDS-PAGE commassie blue staining gel.
<b>Storage &amp; Stability</b>	Store vial at -20°C to -80°C. When stored at the recommended temperature, this protein is stable for 12 months.

## GENE INFORMATION

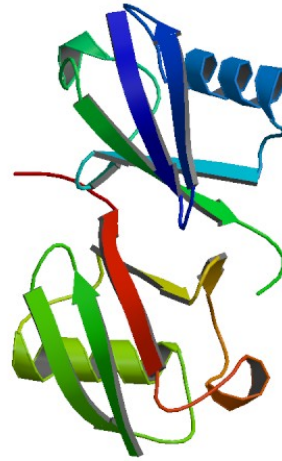
<b>Gene Name</b>	RPS27A ribosomal protein S27a [ Homo sapiens ]
<b>Synonyms</b>	RPS27A; ribosomal protein S27a; CEP80; UBA80; UBCEP1; UBCEP80; HUBCEP80; ubiquitin and ribosomal protein S27a; ubiquitin-CEP80; OTTHUMP00000200786; 40S ribosomal protein S27a; ubiquitin carboxyl extension protein 80
<b>Gene ID</b>	6233
<b>mRNA Refseq</b>	NM_001135592
<b>Protein Refseq</b>	NP_001129064
<b>UniProt ID</b>	P62979
<b>Chromosome Location</b>	2p16
<b>MIM</b>	191343
<b>Pathway</b>	Ribosome; Gene Expression; Influenza Infection; Metabolism of proteins
<b>Function</b>	metal ion binding; structural constituent of ribosome; zinc ion binding

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