

USP15 Protein, Human (sf9)

Cat. No.:	HY-P701411
Synonyms:	USP15; Ubiquitin carboxyl-terminal hydrolase 15; Deubiquitinating enzyme 15; Ubiquitin thioesterase 15; Ubiquitin-specific-processing protease 15; Unph-2; Unph4
Species:	Human
Source:	Sf9 insect cells
Accession:	Q9Y4E8 (A2-N981)
Gene ID:	9958
Molecular Weight:	Approximately 112.4 kDa

PROPERTIES

Biological Activity	The fundamental role of USP15 is specific removal of ubiquitin from substrates. USP15 catalyses the ubiquitin from the substrate Ub-Rho110 to release fluorophores. Rho110 will release 535 nM emission light under the excitation condition of 485 nM. The signal of which can be quickly and reliably captured using a microplate reader.
Appearance	Solution
Formulation	Supplied as a 0.22 µm filtered solution of 50 mM HEPES, 200 mM NaCl, 20% glycerol, 1 mM DTT, pH 7.5.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	Please use rapid thawing with running water to thaw the protein.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background	USP15, a hydrolase, plays a crucial role in cellular regulation by removing conjugated ubiquitin from various target proteins, influencing pathways such as TGF-beta receptor signaling, NF-kappa-B, and RNF41/NRDP1-PRKN pathways. Its involvement in the TGF-beta receptor signaling pathway is multifaceted; it may promote deubiquitination of monoubiquitinated R-SMADs, alleviating their inhibition and activating TGF-beta target genes, or it may mediate deubiquitination and stabilization of TGFBR1, enhancing TGF-beta signaling. USP15 exhibits versatile deubiquitination capabilities, acting on monoubiquitinated substrates and different types of polyubiquitin chains. Additionally, it acts as an inhibitor of mitophagy by counteracting parkin's action, hydrolyzing polyubiquitin chains on target proteins such as MFN2. USP15 is also involved in endosome organization, NF-kappa-B regulation, and negative modulation of antifungal immunity through deubiquitination of various substrates. Furthermore, in microbial infection scenarios, USP15 protects APC and human papillomavirus type 16 protein E6 against degradation via the ubiquitin-proteasome pathway.
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Caution: Product has not been fully validated for medical applications. For research use only.

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