

USP28 Protein, Human (Sf9)

Cat. No.:	HY-P701446
Synonyms:	USP28; Ubiquitin carboxyl-terminal hydrolase 28; Deubiquitinating enzyme 28; Ubiquitin thioesterase 28; Ubiquitin-specific-processing protease 28
Species:	Human
Source:	Sf9 insect cells
Accession:	Q96RU2 (T2-K1077)
Gene ID:	57646
Molecular Weight:	122.5 kDa

PROPERTIES

Biological Activity	USP28 catalyses the ubiquitin from the substrate Ub-Rho110 to release fluorophores. Rho110 will release 535nm emission light under the excitation condition of 485 nm.
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	/
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

The USP28 Protein, as the subject of this description, plays a pivotal role as a deubiquitinase in the DNA damage response checkpoint and stability of the MYC proto-oncogene. In the context of DNA damage-induced apoptosis, it specifically deubiquitinates proteins involved in the DNA damage pathway, such as CLSPN, contributing to the regulation of this critical cellular process. Additionally, USP28 is implicated in the G2 DNA damage checkpoint by deubiquitinating CLSPN, preventing its degradation by the anaphase-promoting complex/cyclosome (APC/C). Notably, it exhibits selectivity in its targets, as it does not deubiquitinate PLK1. In the nucleoplasm, USP28 plays a crucial role in MYC stability by specifically deubiquitinating MYC, counteracting ubiquitination by the SCF(FBW7) complex. The interaction with isoform 1 of FBXW7 in the nucleoplasm prevents MYC degradation, while its absence in the nucleolus allows selective MYC degradation. Furthermore, USP28 deubiquitinates ZNF304, preventing its degradation by the proteasome and contributing to activated KRAS-mediated promoter hypermethylation and transcriptional silencing of tumor suppressor genes in a subset of colorectal cancer cells. This multifaceted role highlights the intricate regulatory functions of USP28 in critical cellular processes and oncogenic pathways.

Caution: Product has not been fully validated for medical applications. For research use only.

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