USP10 Protein, Human

Cat. No.:	HY-P701408
Synonyms:	USP10; Ubiquitin carboxyl-terminal hydrolase 10; Deubiquitinating enzyme 10; Ubiquitin thioesterase 10; Ubiquitin-specific-processing protease 10
Species:	Human
Source:	E. coli
Accession:	Q14694 (A2-L798)
Gene ID:	9100
Molecular Weight:	

PROPERTIES

Appearance	Solution.
Formulation	Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	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	USP10, a hydrolase with versatile substrate specificity, serves as a crucial regulator in multiple cellular processes. Notably, it plays a pivotal role in stabilizing the tumor suppressor p53/TP53 by specifically deubiquitinating it in the cytoplasm under unstressed conditions, counteracting MDM2-mediated degradation. Following DNA damage, USP10 translocates to the nucleus, where it continues to deubiquitinate p53/TP53, contributing to the regulation of the DNA damage response. Additionally, USP10 is integral to a regulatory loop governing autophagy and p53/TP53 levels, mediating the deubiquitination of BECN1. In the context of ribosome biology, USP10 is involved in 40S ribosome subunit recycling, inhibiting stress granule formation and preventing degradation of 40S ribosomal proteins during translation stalling. Beyond its role in protein stability, USP10 participates in endocytic recycling by deubiquitinating CFTR in early endosomes and engages in a TANK-dependent negative feedback response to attenuate NF-kappa-B activation in response to IL1B stimulation or DNA damage. Additionally, USP10 stabilizes TBX21 through deubiquitination, indicating its involvement in diverse cellular pathways.

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

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