

USP30 Protein, Human (Sf9)

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| Cat. No.: | HY-P701450 |
| Synonyms: | USP30; Ubiquitin carboxyl-terminal hydrolase 30; Deubiquitinating enzyme 30; Ubiquitin thioesterase 30; Ubiquitin-specific-processing protease 30; Ub-specific protease 30 |
| Species: | Human |
| Source: | Sf9 insect cells |
| Accession: | Q70CQ3 (T57-E517) |
| Gene ID: | 84749 |
| Molecular Weight: | Approximately 52.7 kDa |

PROPERTIES

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| Biological Activity | The fundamental role of USP30 is specific removal of ubiquitin from substrates. USP30 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, pH7.5, 200 mM NaCl, 20% glycerol, 1 mM DTT. |
| 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

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| Background | USP30 Protein, anchored to the mitochondrial outer membrane, assumes a critical role as a deubiquitinating enzyme that acts as a key inhibitor of mitophagy, countering the actions of parkin (PRKN). By hydrolyzing ubiquitin attached by parkin on target proteins such as RHOT1/MIRO1 and TOMM20, USP30 impedes parkin's ability to drive mitophagy, thereby regulating the selective clearance of damaged mitochondria. Its substrate specificity extends to the preferential cleavage of 'Lys-6'- and 'Lys-11'-linked polyubiquitin chains, key linkages involved in mitophagic signaling. Notably, USP30 does not efficiently cleave polyubiquitin phosphorylated at 'Ser-65'. Beyond its role in mitophagy, USP30 also functions as a negative regulator of mitochondrial fusion, mediating the deubiquitination of MFN1 and MFN2. This dual role underscores the intricate regulatory mechanisms by which USP30 orchestrates mitochondrial dynamics and quality control, playing a central role in maintaining mitochondrial homeostasis. |
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Caution: Product has not been fully validated for medical applications. For research use only.

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