

Recombinant Human USP7 Protein (A2-T344), Tag Free

Cat. No. USP7-0553H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human USP7(K208-E560) Protein was expressed in Insect cell.
Species	Human
Source	Insect Cells
ProteinLength	A2-T344
Description	Hydrolase that deubiquitinates target proteins such as FOXO4, KAT5, p53/TP53, MDM2, ERCC6, DNMT1, UHRF1, PTEN, KMT2E/MLL5 and DAXX. Together with DAXX, prevents MDM2 self-ubiquitination and enhances the E3 ligase activity of MDM2 towards p53/TP53, thereby promoting p53/TP53 ubiquitination and proteasomal degradation. Deubiquitinates p53/TP53, preventing degradation of p53/TP53, and enhances p53/TP53-dependent transcription regulation, cell growth repression and apoptosis. Deubiquitinates p53/TP53 and MDM2 and strongly stabilizes p53/TP53 even in the presence of excess MDM2, and also induces p53/TP53-dependent cell growth repression and apoptosis. Deubiquitination of FOXO4 in presence of hydrogen peroxide is not dependent on p53/TP53 and inhibits FOXO4-induced transcriptional activity. In association with DAXX, is involved in the deubiquitination and translocation of PTEN from the nucleus to the cytoplasm, both processes that are counteracted by PML. Deubiquitinates KMT2E/MLL5 preventing KMT2E/MLL5 proteasomal-mediated degradation. Involved in cell proliferation during early embryonic development. Involved in transcription-coupled nucleotide excision repair (TC-NER) in response to UV damage: recruited to DNA damage sites following

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interaction with KIAA1530/UVSSA and promotes deubiquitination of ERCC6, preventing UV-induced degradation of ERCC6. Involved in maintenance of DNA methylation via its interaction with UHRF1 and DNMT1: acts by mediating deubiquitination of UHRF1 and DNMT1, preventing their degradation and promoting DNA methylation by DNMT1. Deubiquitinates alkylation repair enzyme ALKBH3. OTUD4 recruits USP7 and USP9X to stabilize ALKBH3, thereby promoting the repair of alkylated DNA lesions. Acts as a chromatin regulator via its association with the Polycomb group (PcG) multiprotein PRC1-like complex; may act by deubiquitinating components of the PRC1-like complex. Able to mediate deubiquitination of histone H2B; it is however unsure whether this activity takes place in vivo. Exhibits a preference towards 'Lys-48'-linked ubiquitin chains. Increases regulatory T-cells (Treg) suppressive capacity by deubiquitinating and stabilizing the transcription factor FOXP3 which is crucial for Treg cell function. Plays a role in the maintenance of the circadian clock periodicity via deubiquitination and stabilization of the CRY1 and CRY2 proteins. Deubiquitinates REST, thereby stabilizing REST and promoting the maintenance of neural progenitor cells. Deubiquitinates SIRT7, inhibiting SIRT7 histone deacetylase activity and regulating gluconeogenesis.

Form	Liquid
Endotoxin	< 0.01 EU per µg of the protein
Purity	90%
Stability	Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade.
Storage	Store it under sterile conditions at -20 to -80 centigrade. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.

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Storage Buffer	Supplied as sterile 50 mM Tris-HCl (pH7.5), 200 mM NaCl, 20% glycerol
Shipping	It is shipped out with blue ice.
GENE INFORMATION	
Gene Name	USP7 ubiquitin specific peptidase 7 (herpes virus-associated) [Homo sapiens (human)]
Official Symbol	USP7
Synonyms	USP7; ubiquitin specific peptidase 7 (herpes virus-associated); HAUSP, ubiquitin specific protease 7 (herpes virus associated); ubiquitin carboxyl-terminal hydrolase 7; ubiquitin thioesterase 7; deubiquitinating enzyme 7; ubiquitin-specific-processing protease 7; herpesvirus-associated ubiquitin-specific protease; Herpes virus-associated ubiquitin-specific protease; ubiquitin specific protease 7 (herpes virus-associated); TEF1; HAUSP;
Gene ID	7874
mRNA Refseq	NM_003470
Protein Refseq	NP_003461
MIM	602519
UniProt ID	Q93009