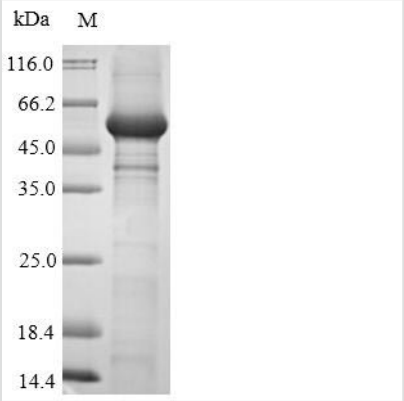
Recombinant Human Ubiquitin carboxyl-terminal hydrolase 7 (USP7),Partial

Product Code	CSB-EP849973HU
Relevance	Hydrolase that deubiquitinates target proteins such as FOXO4, p53/TP53, MDM2, ERCC6, DNMT1, UHRF1, PTEN 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. 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 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. 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
Abbreviation	Recombinant Human USP7 protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q93009
Alias	Deubiquitinating enzyme 7 Herpesvirus-associated ubiquitin-specific protease Ubiquitin thioesterase 7 Ubiquitin-specific-processing protease 7
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	VGLKNQGATCYMNSLLQTLFFTNQLRKAVYMMPTEGDDSSKSVPLALQRVFY

	ELQHSDKPVGTKKLTKSFGWETLDSFMQHDVQELCRVLLDNVENKMKGTCVE GTIPKLFRGKMVSYIQCKEVDYRSDRREDYYDIQLSIKGKKNIFESFVDYVAVE QLDGDNKYDAGEHGLQEAEKGVKFLTLPPVLHLQLMRFMYDPQTDQNIKIND RFEFPEQLPLDEFLQKTDPKDPANYILHAVLVHSGDNHGGHYVVYLNPKGDGK WCKFDDDVVSRCTKEEAIEHNYGGHDDDLSVRHCTNAYMLVYIRE
Source	E.coli
Target Names	USP7
Protein Names	Recommended name: Ubiquitin carboxyl-terminal hydrolase 7 EC= 3.4.19.12Alternative name(s): Deubiquitinating enzyme 7 Herpesvirus-associated ubiquitin-specific protease Ubiquitin thioesterase 7 Ubiquitin-specific-processing protease 7
Expression Region	214-521aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-SUMO-tagged and C-terminal Myc-tagged
Mol. Weight	55.6kDa
Protein Length	Partial
Image	 (Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The recombinant Human USP7 was expressed with the amino acid range of 214-521. The expected molecular weight for the USP7 protein is calculated to be 55.6 kDa. Expression of this USP7 protein is conducted in e.coli. The N-terminal 10xHis-SUMO tag and C-terminal Myc tag was fused into the coding gene segment of USP7, making it easier to detect and purify the USP7 recombinant protein in the later stages of expression and purification.

Human ubiquitin carboxyl-terminal hydrolase 7 (USP7) plays a pivotal role in cellular homeostasis by regulating the ubiquitin-proteasome system. Its main function involves deubiquitinating target proteins, stabilizing them, and preventing proteasomal degradation. In cell biology and molecular research, studying USP7 provides insights into cellular processes, including DNA repair, apoptosis, and cell cycle progression. USP7's involvement in cancer and neurodegenerative disorders positions it as a potential therapeutic target in oncology and neurobiology research. Investigating USP7 spans diverse

	research areas, contributing to the understanding of protein regulation, and cellular functions, and offering potential applications in drug discovery and the development of targeted therapies for various diseases.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.
Shelf Life	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.