Recombinant human Ubiquitin thioesterase OTUB1

Catalog No: #AP71826

Package Size: #AP71826-1 20ug #AP71826-2 100ug #AP71826-3 1mg

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Description

Product Name	Recombinant human Ubiquitin thioesterase OTUB1
Brief Description	Recombinant Protein
Host Species	E.coli
Purification	Greater than 90% as determined by SDS-PAGE.
Immunogen Description	Expression Region:2-201aaSequence Info:Partial
Other Names	Deubiquitinating enzyme OTUB1OTU domain-containing ubiquitin aldehyde-binding protein 1Otubain-1 ;hOTU1Ubiquitin-specific-processing protease OTUB1
Accession No.	Q96FW1
Uniprot	Q96FW1
GeneID	55611;
Calculated MW	50.1 kDa
Tag Info	N-terminal GST-tagged
Target Sequence	AAEEPQQQKQEPLGSDSEGVNCLAYDEAIMAQQDRIQQEIAVQNPLVSERLELSVLYKEYAEDDNIYQQKIKD LHKKYSYIRKTRPDGNCFYRAFGFSHLEALLDDSKELQRFKAVSAKSKEDLVSQGFTEFTIEDFHNTFMDLIEQ VEKQTSVADLLASFNDQSTSDYLVVYLRLLTSGYLQRESKFFEHFIEGGRTVK
Formulation	Tris-based buffer50% glycerol
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.Notes:Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Background

Hydrolase that can specifically rove 'Lys-48'-linked conjugated ubiquitin from proteins and plays an important regulatory role at the level of protein turnover by preventing degradation. Regulator of T-cell anergy, a phenomenon that occurs when T-cells are rendered unresponsive to antigen rechallenge and no longer respond to their cognate antigen. Acts via its interaction with RNF128,GRAIL, a crucial inductor of CD4 T-cell anergy. Isoform 1 destabilizes RNF128, leading to prevent anergy. In contrast, isoform 2 stabilizes RNF128 and promotes anergy. Surprisingly, it regulates RNF128-mediated ubiquitination, but does not deubiquitinate polyubiquitinated RNF128. Deubiquitinates estrogen receptor alpha (ESR1). Mediates deubiquitination of 'Lys-48'-linked polyubiquitin chains, but not 'Lys-63'-linked polyubiquitin chains. Not able to cleave di-ubiquitin. Also capable of roving NEDD8 from NEDD8 conjugates, but with a much lower preference compared to 'Lys-48'-linked ubiquitin.Plays a key non-catalytic role in DNA repair regulation by inhibiting activity of RNF168, an E3 ubiquitin-protein ligase that promotes accumulation of 'Lys-63'-linked histone H2A and H2AX at DNA damage sites. Inhibits RNF168 independently of ubiquitin thioesterase activity by binding and inhibiting UBE2N,UBC13, the E2 partner of RNF168, thereby limiting spreading of 'Lys-63'-linked histone H2A and H2AX marks. Inhibition occurs by binding to free ubiquitin: free ubiquitin acts as an allosteric regulator that increases affinity for UBE2N,UBC13 and disrupts interaction with UBE2V1. The OTUB1-UBE2N,UBC13-free ubiquitin complex adopts a configuration that mimics a cleaved 'Lys48'-linked di-ubiquitin chain.

References

Human chromosome 11 DNA sequence and analysis including novel gene identification.Taylor T.D., Noguchi H., Totoki Y., Toyoda A., Kuroki Y., Dewar K., Lloyd C., Itoh T., Takeda T., Kim D.-W., She X., Barlow K.F., Bloom T., Bruford E., Chang J.L., Cuomo C.A., Eichler E., FitzGerald M.G. , Jaffe D.B., LaButti K., Nicol R., Park H.-S., Seaman C., Sougnez C., Yang X., Zimmer A.R., Zody M.C., Birren B.W., Nusbaum C., Fujiyama A., Hattori M., Rogers J., Lander E.S., Sakaki Y.Nature 440:497-500(2006)Research Topic:Immunology

Note: This product is for in vitro research use only