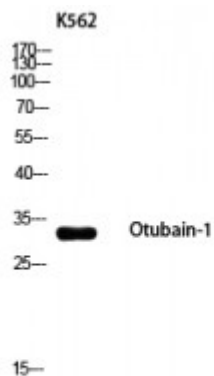


Anti-Otubain-1 antibody



Description

Otubain-1 is a protein encoded by the OTUB1 gene which is approximately 31,3 kDa. Otubain-1 is localised to the cytoplasm and is involved in deubiquitination, metabolism of proteins, DNA damage and ovarian tumor domain proteases. Otubain-1 is a member of the ovarian tumor superfamily. It interacts with another ubiquitin protease and an E3 ubiquitin ligase which inhibits cytokine gene transcription in the immune system. It also 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. Isoform 1 of otubain-1 is ubiquitously expressed while isoform 2 is expressed only in lymphoid tissues as well as peripheral blood mononuclear cells. Mutations in the OTUB1 gene may result in retinitis pigmentosa. STJ97632 was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen. This polyclonal antibody detects endogenous levels of otubain-1 protein.

Model	STJ97632
Host	Rabbit
Reactivity	Human, Mouse, Rat
Applications	ELISA, WB
Immunogen	Synthesized peptide derived from human Otubain-1
Immunogen Region	20-100 aa, Internal
Gene ID	55611
Gene Symbol	OTUB1
Dilution range	WB 1:500-1:2000ELISA 1:10000

Specificity	Otubain-1 Polyclonal Antibody detects endogenous levels of Otubain-1 protein.
Tissue Specificity	Isoform 1 is ubiquitous. Isoform 2 is expressed only in lymphoid tissues such as tonsils, lymph nodes and spleen, as well as peripheral blood mononuclear cells.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Note	For Research Use Only (RUO).
Protein Name	Ubiquitin thioesterase OTUB1 Deubiquitinating enzyme OTUB1 OTU domain-containing ubiquitin aldehyde-binding protein 1 Otubain-1 hOTU1 Ubiquitin-specific-processing protease OTUB1
Clonality	Polyclonal
Conjugation	Unconjugated
Isotype	IgG
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:230770MIM:608337
Alternative Names	Ubiquitin thioesterase OTUB1 Deubiquitinating enzyme OTUB1 OTU domain-containing ubiquitin aldehyde-binding protein 1 Otubain-1 hOTU1 Ubiquitin-specific-processing protease OTUB1
Function	Hydrolase that can specifically remove '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 removing 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.

Sequence and Domain Family	In addition to ubiquitin-binding at the Cys-91 active site, a proximal ubiquitin-binding site is also present at Cys-23. Occupancy of the active site is needed to enable tight binding to the second site. Distinct binding sites for the ubiquitins may allow to discriminate among different isopeptide linkages (i.e. 'Lys-48', 'Lys-63'-linked polyubiquitin) in polyubiquitin substrates and achieve linkage-specific deubiquitination.
Cellular Localization	Cytoplasm

St John's Laboratory Ltd

F +44 (0)207 681 2580

T +44 (0)208 223 3081

W <http://www.stjohnslabs.com/>

E info@stjohnslabs.com