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USP15 Rabbit pAb

Catalog # AP97180

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9Y4E8
Other Accession	Q9Y4E8
Reactivity	Rat
Predicted	Pig, Human, Mouse, Rabbit, Chicken, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	112419
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human USP15
Epitope Specificity	601-700/981
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the peptidase C19 family. Contains 1 DUSP domain.
SUBUNIT	A homodimer structure has been reported; however it is unclear whether the protein form a homodimer in vivo (PubMed:22001210). Identified in a complex with the COP9 signalosome complex (CSN). Interacts with SMAD1, SMAD2 and SMAD3; the interaction is direct. Forms a complex with SMURF2 and SMAD7. Interacts with TGFBR1. Interacts with SART3; the interaction is direct. May interact with RNF20 and RNF40. Interacts with human papillomavirus type 16 protein E6
Post-translational modifications	Phosphorylated. Phosphorylation protects against ubiquitination and subsequent degradation by the proteasome. Ubiquitinated, leading to degradation by the proteasome.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Additional Information

Gene ID	9958
Other Names	UNP; UNPH-2; UNPH4; 4921514G19Rik; E430033I05Rik; Gcap18; Ubp109; UBP15_HUMAN; USP15; Deubiquitinating enzyme 15; Ubiquitin thioesterase 15; Ubiquitin-specific-processing protease 15; 3.4.19.12; KIAA0529; UBP15_MOUSE; ubiquitin specific peptidase 15; ubiquitin specific protease 15
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	USP15 {ECO:0000303|PubMed:10444327, ECO:0000312|HGNC:HGNC:12613}
Function	Hydrolase that removes conjugated ubiquitin from target proteins and regulates various pathways such as the TGF-beta receptor signaling, NF-kappa-B and RNF41/NRDP1-PRKN pathways (PubMed:16005295, PubMed:17318178, PubMed:19576224, PubMed:19826004, PubMed:21947082, PubMed:22344298, PubMed:24852371). Acts as a key regulator of TGF-beta receptor signaling pathway, but the precise mechanism is still unclear: according to a report, acts by promoting deubiquitination of monoubiquitinated R-SMADs (SMAD1, SMAD2 and/or SMAD3), thereby alleviating inhibition of R-SMADs and promoting activation of TGF-beta target genes (PubMed:21947082). According to another reports, regulates the TGF-beta receptor signaling pathway by mediating deubiquitination and stabilization of TGFBR1, leading to an enhanced TGF-beta signal (PubMed:22344298). Able to mediate deubiquitination of monoubiquitinated substrates, 'Lys-27'-, 'Lys-48'- and 'Lys-63'-linked polyubiquitin chains (PubMed:33093067). May also regulate gene expression and/or DNA repair through the deubiquitination of histone H2B (PubMed:24526689). Acts as an inhibitor of mitophagy by counteracting the action of parkin (PRKN): hydrolyzes cleavage of 'Lys- 48'- and 'Lys-63'-linked polyubiquitin chains attached by parkin on target proteins such as MFN2, thereby reducing parkin's ability to drive mitophagy (PubMed:24852371). Acts as an associated component of COP9 signalosome complex (CSN) and regulates different pathways via this association: regulates NF-kappa-B by mediating deubiquitination of NFKBIA and deubiquitinates substrates bound to VCP (PubMed:16005295, PubMed:17318178, PubMed:19576224, PubMed:19826004). Involved in endosome organization by mediating deubiquitination of SQSTM1: ubiquitinated SQSTM1 forms a molecular bridge that restrains cognate vesicles in the perinuclear region and its deubiquitination releases target vesicles for fast transport into the cell periphery (PubMed:27368102). Acts as a negative regulator of antifungal immunity by mediating 'Lys-27'-linked deubiquitination of CARD9, thereby inactivating CARD9 (PubMed:33093067).
Cellular Location	Cytoplasm. Nucleus. Mitochondrion
Tissue Location	Expressed in skeletal muscle, kidney, heart, placenta, liver, thymus, lung, and ovary, with little or no expression in other tissues

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.