10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

USP5 Antibody

Rabbit mAb
Catalog # AP93228

Product Information

Application	WB, IF, ICC
Primary Accession	P45974
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Other Names	ISOT; Usp5;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	95786

Additional Information

Dilution	WB 1:500~1:2000 ICC/IF 1:50~1:200
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human USP5
Description	Cleaves linear and branched multiubiquitin polymers with a marked preference for branched polymers. Involved in unanchored 'Lys-48'-linked polyubiquitin disassembly.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

Name	USP5
Synonyms	ISOT
Function	Deubiquitinating enzyme that participates in a wide range of cellular processes by specifically cleaving isopeptide bonds between ubiquitin and substrate proteins or ubiquitin itself. Affects thereby important cellular signaling pathways such as NF-kappa-B, Wnt/beta- catenin, and cytokine production by regulating ubiquitin-dependent protein degradation. Participates in the activation of the Wnt signaling pathway by promoting FOXM1 deubiquitination and stabilization that induces the recruitment of beta-catenin to Wnt target gene promoter (PubMed:26912724). Regulates the assembly and disassembly of heat-induced stress granules by mediating the hydrolysis of unanchored ubiquitin chains (PubMed:29567855). Promotes lipopolysaccharide-induced apoptosis and inflammatory response by stabilizing the TXNIP protein (PubMed:37534934). Affects T-cell biology by stabilizing the inhibitory receptor on T-cells PDC1 (PubMed:37208329). Acts as a negative regulator of autophagy by regulating ULK1 at both protein and

mRNA levels (PubMed:37607937). Acts also as a negative regulator of type I interferon production by simultaneously removing both 'Lys-48'-linked unanchored and 'Lys-63'-linked anchored polyubiquitin chains on the transcription factor IRF3 (PubMed:39761299). Modulates the stability of DNA mismatch repair protein MLH1 and counteracts the effect of the ubiquitin ligase UBR4 (PubMed:39032648). Upon activation by insulin, it gets phosphorylated through mTORC1-mediated phosphorylation to enhance YTHDF1 stability by removing 'Lys-11'-linked polyubiquitination (PubMed:39900921). May also deubiquitinate other substrates such as the calcium channel CACNA1H (By similarity).

Cellular Location Cytoplasm. Cytoplasm, Stress granule. Nucleus

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