

#### KD-Validated Anti-Ubiquitin Specific Peptidase 5 Rabbit Monoclonal Antibody Rabbit monoclonal antibody

Catalog # AGI1747

### Specification

# KD-Validated Anti-Ubiquitin Specific Peptidase 5 Rabbit Monoclonal Antibody - Product Information

Application Primary Accession Reactivity Clonality Isotype Calculated MW	WB, FC, ICC <u>P45974</u> Rat, Human, Mouse Monoclonal Rabbit IgG Predicted, 96 kDa , observed , 100 kDa KDa
Gene Name	USP5
Aliases	USP5; Ubiquitin Specific Peptidase 5; Isopeptidase T; IsoT;
	Ubiquitin Carboxyl-Terminal Hydrolase 5;
	Thioesterase 5; Ubiquitin-Specific
	Protease-5 (Ubiquitin Isopeptidase T);
	Ubiquitin Specific Peptidase 5
	(Isopeptidase T); Ubiquitin Specific
	Protease 5 (Isopeptidase I); Testicular
	Thiolesterase 5: Ilbiquitin Isopentidase T
	EC 3.4.19.12: EC 3.1.2.15: ISOT
Immunogen	A synthesized peptide derived from human USP5

#### KD-Validated Anti-Ubiquitin Specific Peptidase 5 Rabbit Monoclonal Antibody -Additional Information

Gene ID 8078 Other Names Ubiquitin carboxyl-terminal hydrolase 5, 3.4.19.12, Deubiquitinating enzyme 5, Isopeptidase T, Ubiquitin thioesterase 5, Ubiquitin-specific-processing protease 5, USP5, ISOT

# KD-Validated Anti-Ubiquitin Specific Peptidase 5 Rabbit Monoclonal Antibody - 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 ubiguitin-dependent protein degradation. Participates in the activation of the Wnt signaling pathway by promoting FOXM1 deubiguitination and stabilization that induces the recruitment of beta-catenin to Wnt target gene promoter (PubMed:<a href="http://www.uniprot.org/citations/26912724" target=" blank">26912724</a>). Regulates the assembly and disassembly of heat-induced stress granules by mediating the hydrolysis of unanchored ubiguitin chains (PubMed:<a href="http://www.uniprot.org/citations/29567855" target=" blank">29567855</a>). Promotes lipopolysaccharide-induced apoptosis and inflammatory response by stabilizing the TXNIP protein (PubMed: <a href="http://www.uniprot.org/citations/37534934" target="\_blank">37534934</a>). Affects T-cell biology by stabilizing the inhibitory receptor on T-cells PDC1 (PubMed:<a href="http://www.uniprot.org/citations/37208329" target=" blank">37208329</a>). Acts as a negative regulator of autophagy by regulating ULK1 at both protein and mRNA levels (PubMed: <a href="http://www.uniprot.org/citations/37607937" target=" blank">37607937</a>). Acts also as a negative regulator of type I interferon production by simultaneously removing both 'Lys-48'-linked unanchored and 'Lys-63'-linked anchored polyubiguitin chains on the transcription factor IRF3 (PubMed:<a href="http://www.uniprot.org/citations/39761299" target=" blank">39761299</a>). Modulates the stability of DNA mismatch repair protein MLH1 and counteracts the effect of the ubiquitin ligase UBR4 (PubMed:<a href="http://www.uniprot.org/citations/39032648" target=" blank">39032648</a>). Upon activation by insulin, it gets phosphorylated through mTORC1-mediated phosphorylation to enhance YTHDF1 stability by removing 'Lys-11'-linked polyubiguitination (PubMed:<a href="http://www.uniprot.org/citations/39900921" target="\_blank">39900921</a>). May also deubiguitinate other substrates such as the calcium channel CACNA1H (By similarity).

**Cellular Location** 

Cytoplasm. Cytoplasm, Stress granule. Nucleus

## KD-Validated Anti-Ubiquitin Specific Peptidase 5 Rabbit Monoclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- <u>Western Blot</u>
- Blocking Peptides
- <u>Dot Blot</u>
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

KD-Validated Anti-Ubiquitin Specific Peptidase 5 Rabbit Monoclonal Antibody - Images





Western blotting analysis using anti-Ubiquitin specific peptidase 5 antibody (Cat#AGI1747). Total cell lysates ( $30 \mu g$ ) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Ubiquitin specific peptidase 5 antibody (Cat#AGI1747, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Western blotting analysis using anti-Ubiquitin specific peptidase 5 antibody (Cat#AGI1747). Ubiquitin specific peptidase 5 expression in wild type (WT) and Ubiquitin specific peptidase 5 shRNA knockdown (KD) HeLa cells with 20  $\mu$ g of total cell lysates.  $\beta$ -Tubulin serves as a loading control. The blot was incubated with anti-Ubiquitin specific peptidase 5 antibody (Cat#AGI1747, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody respectively.



Ubiquitin specific peptidase 5-Alexa Fluor® 647

Flow cytometric analysis of Ubiquitin specific peptidase 5 expression in HepG2 cells using anti-Ubiquitin specific peptidase 5 antibody (Cat#AGI1747, 1:2,000). Green, isotype control; red, Ubiquitin specific peptidase 5.





Immunocytochemical staining of HepG2 cells with anti-Ubiquitin specific peptidase 5 antibody (Cat#AGI1747, 1:1,000). Nuclei were stained blue with DAPI; Ubiquitin specific peptidase 5 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20  $\mu$ m.