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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	**WB, FC, ICC**
Primary Accession	P45974
Reactivity	**Rat, Human, Mouse**
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 96 kDa , observed , 100 kDa KDa**
Gene Name	**USP5**
Aliases	**USP5; Ubiquitin Specific Peptidase 5; Isopeptidase T; IsoT; Ubiquitin-Specific-Processing Protease 5; Ubiquitin Carboxyl-Terminal Hydrolase 5; Deubiquitinating Enzyme 5; Ubiquitin Thioesterase 5; Ubiquitin-Specific Protease-5 (Ubiquitin Isopeptidase T); Ubiquitin Specific Peptidase 5 (Isopeptidase T); Ubiquitin Specific Protease 5 (Isopeptidase T); Testicular Tissue Protein Li 218; Ubiquitin Thiolesterase 5; Ubiquitin Isopeptidase 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 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

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

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

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

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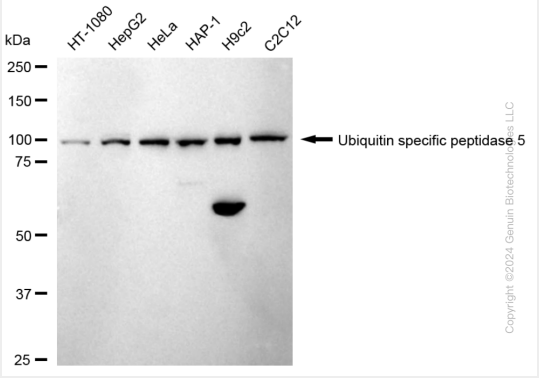
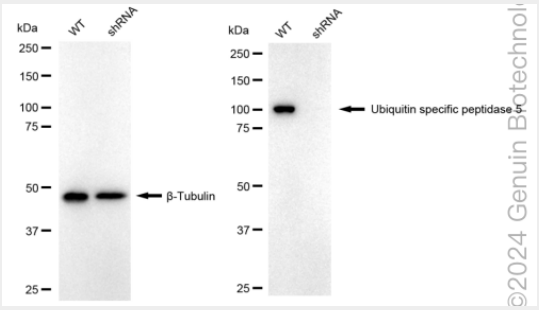
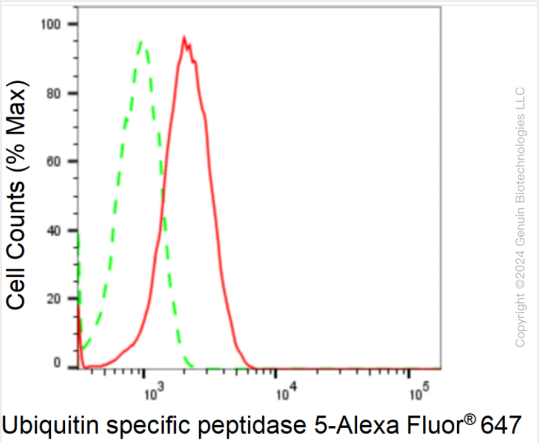


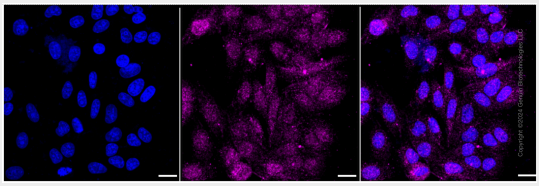
Western blotting analysis using anti-Ubiquitin specific peptidase 5 antibody (Cat#AGI1747). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Ubiquitin specific peptidase 5 antibody (Cat#AGI1747, 1:5,000) and HRP-conjugated goat 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 µg of total cell lysates. β-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.



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.



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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 µm.