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# USP5 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AW5077

## Product Information

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|---|---|
| **Application** | WB |
| **Primary Accession** | P45974 |
| **Reactivity** | Human, Mouse, Rat |
| **Host** | Mouse |
| **Clonality** | Monoclonal |
| **Calculated MW** | 95786 |
| **Isotype** | IgG1,κ |
| **Antigen Source** | HUMAN |

## Additional Information

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| **Gene ID** | 8078 |
| **Antigen Region** | 1-160 |
| **Other Names** | Ubiquitin carboxyl-terminal hydrolase 5, Deubiquitinating enzyme 5, Isopeptidase T, Ubiquitin thioesterase 5, Ubiquitin-specific-processing protease 5, USP5, ISOT |
| **Dilution** | WB~~1:1000 |
| **Target/Specificity** | This USP5 antibody is generated from a mouse immunized with a recombination protein from the human region of human USP5. |
| **Format** | Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS. |
| **Storage** | Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles. |
| **Precautions** | USP5 Antibody is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **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

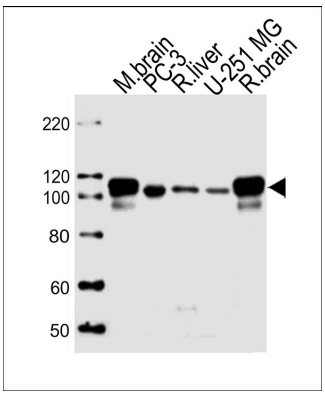
## Background

Cleaves linear and branched multiubiquitin polymers with a marked preference for branched polymers. Involved in unanchored 'Lys-48'-linked polyubiquitin disassembly. Binds linear and 'Lys-63'-linked polyubiquitin with a lower affinity. Knock-down of USP5 causes the accumulation of p53/TP53 and an increase in p53/TP53 transcriptional activity because the unanchored polyubiquitin that accumulates is able to compete with ubiquitinated p53/TP53 but not with MDM2 for proteasomal recognition.

## References


Falquet L.,et al.FEBS Lett. 376:233-237(1995).
Ansari-Lari M.A.,et al.Genome Res. 6:314-326(1996).
Ansari-Lari M.A.,et al.Genome Res. 7:268-280(1997).
Tashayev V.L.,et al.Submitted (NOV-1995) to the EMBL/GenBank/DDBJ databases.
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.


## Images




Western blot analysis of lysates from mouse brain tissue,PC-3 cell line,rat liver tissue,U-251 MG cell line,rat brain tissue (from left to right), using USP5 Antibody(Cat. #AW5077). AW5077 was diluted at 1:1000 at each lane. A goat anti-mouse IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.Lysates at 20ug per lane.

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