

USP2 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP2131a**Specification**

USP2 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession [O75604](#)
Other Accession [UBP2_HUMAN](#)

USP2 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 9099

Other Names

Ubiquitin carboxyl-terminal hydrolase 2, 41 kDa ubiquitin-specific protease, Deubiquitinating enzyme 2, Ubiquitin thioesterase 2, Ubiquitin-specific-processing protease 2, USP2, UBP41

Target/Specificity

The synthetic peptide sequence is selected from aa 86~106 of human USP2.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

USP2 Antibody (N-term) Blocking Peptide - Protein Information

Name USP2

Synonyms UBP41

Function

Hydrolase that deubiquitinates polyubiquitinated target proteins such as MDM2, MDM4 and CCND1 (PubMed: [17290220](http://www.uniprot.org/citations/17290220), PubMed: [19838211](http://www.uniprot.org/citations/19838211), PubMed: [19917254](http://www.uniprot.org/citations/19917254)). Isoform 1 and isoform 4 possess both ubiquitin-specific peptidase and isopeptidase activities (By similarity). Deubiquitinates MDM2 without reversing MDM2-mediated p53/TP53 ubiquitination and thus indirectly promotes p53/TP53 degradation and limits p53 activity (PubMed: [17290220](http://www.uniprot.org/citations/17290220), PubMed: [19838211](http://www.uniprot.org/citations/19838211)). Has no deubiquitinase activity against p53/TP53 (PubMed: [17290220](http://www.uniprot.org/citations/17290220)). Prevents

MDM2-mediated degradation of MDM4 (PubMed:17290220). Plays a role in the G1/S cell-cycle progression in normal and cancer cells (PubMed:19917254). Regulates the circadian clock by modulating its intrinsic circadian rhythm and its capacity to respond to external cues (By similarity). Associates with clock proteins and deubiquitinates core clock component PER1 but does not affect its overall stability (By similarity). Regulates the nucleocytoplasmic shuttling and nuclear retention of PER1 and its repressive role on the clock transcription factors CLOCK and BMAL1 (By similarity). Plays a role in the regulation of myogenic differentiation of embryonic muscle cells (By similarity).

Cellular Location

Cytoplasm {ECO:0000250|UniProtKB:O88623}. Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:O88623} Note=Localizes in the spermatid head in late-elongating spermatids in the thin area between the outer acrosomal membrane and the plasma membrane. {ECO:0000250|UniProtKB:Q5U349}

Tissue Location

Expressed in mesangial cells of the kidney and in different types of glomerulonephritides (at protein level)

USP2 Antibody (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

USP2 Antibody (N-term) Blocking Peptide - Images

USP2 Antibody (N-term) Blocking Peptide - Background

Modification of target proteins by ubiquitin participates in a wide array of biological functions. Proteins destined for degradation or processing via the 26 S proteasome are coupled to multiple copies of ubiquitin. However, attachment of ubiquitin or ubiquitin-related molecules may also result in changes in subcellular distribution or modification of protein activity. An additional level of ubiquitin regulation, deubiquitination, is catalyzed by proteases called deubiquitinating enzymes, which fall into four distinct families. Ubiquitin C-terminal hydrolases, ubiquitin-specific processing proteases (USPs),¹ OTU-domain ubiquitin-aldehyde-binding proteins, and Jab1/Pad1/MPN-domain-containing metallo-enzymes. Among these four families, USPs represent the most widespread and represented deubiquitinating enzymes across evolution. USPs tend to release ubiquitin from a conjugated protein. They display similar catalytic domains containing conserved Cys and His boxes but divergent N-terminal and occasionally C-terminal extensions, which are thought to function in substrate recognition, subcellular localization, and protein-protein interactions.

USP2 Antibody (N-term) Blocking Peptide - References

Strausberg, R.L., et al., Proc. Natl. Acad. Sci. U.S.A. 99(26):16899-16903 (2002).