

USP2 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV11134**Specification**

USP2 Antibody - Product Information

Application	WB
Primary Accession	O75604
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	68072

USP2 Antibody - Additional Information**Gene ID** 9099

Positive Control
Application & Usage

Western Blot: Liver cell lysate
Western blot: 1:200 - 1:500 dilution, IHC:
1:50 - 1:100 dilution. IF: 1:20 - 1:50
dilution. However, the optimal conditions
should be determined individually.

Other Names
USP2, UBP41, USP9

Target/Specificity
USP2

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg of antibody in 100 µl PBS containing 0.02% sodium azide, 50% glycerol, pH 7.3

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
USP2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

USP2 Antibody - Protein Information

Name USP2

Synonyms UBP41

Function

Hydrolase that deubiquitinates polyubiquitinated target proteins such as MDM2, MDM4 and CCND1 (PubMed:17290220, PubMed:19917254, PubMed:19838211). 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, PubMed:19838211). Has no deubiquitinase activity against p53/TP53 (PubMed: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

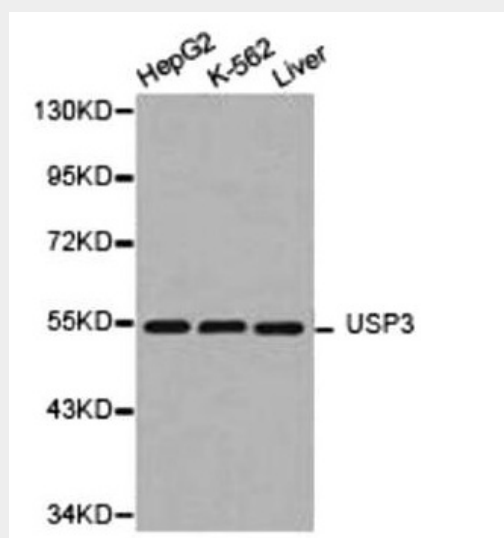
Expressed in mesangial cells of the kidney and in different types of glomerulonephritides (at protein level)

USP2 Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

USP2 Antibody - Images



WB of liver cell lysate with USP2 pAb.

USP2 Antibody - Background

Ubiquitinating enzymes (UBEs) catalyze protein ubiquitination, a reversible process countered by deubiquitinating enzymes (DUB) action. There are five DUB subfamilies including the USP, UCH, OTU, MJD, and JAMM enzymes. Ubiquitin-specific processing protease 2 (USP2) belongs to the USP (UBP/UCH type 2) subfamily and is characterized by its C19 peptidase activity, which is involved in ubiquitin recycling and in the disassembly of various forms of polymeric ubiquitin and ubiquitin-like protein complexes. There is mounting evidence that USP2 functions as an oncoprotein through multiple mechanisms. In human prostate cancer, USP2 is highly overexpressed and drives tumor growth by binding to and stabilizing fatty acid synthase through deubiquitination. It has also been demonstrated that USP2 can bind and deubiquitinate both Mdm2 and cyclin D1, which leads to their stabilization and enhanced cell proliferation.