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# USP2 Antibody (Ctr S260)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2131d

## Product Information

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| **Application** | WB, E |
| **Primary Accession** | O75604 |
| **Other Accession** | Q5U349, O88623, Q2KHV7, UBP2_HUMAN |
| **Reactivity** | Human |
| **Predicted** | Mouse, Rat, Bovine |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Calculated MW** | 68072 |
| **Antigen Region** | 245-275 |

## Additional Information

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| **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** | This USP2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 245-275 amino acids from human USP2. |
| **Dilution** | WB~~1:1000 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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** | USP2 Antibody (Ctr S260) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | USP2 |
| **Synonyms** | UBP41 |

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| **Function** | Hydrolase that deubiquitinates polyubiquitinated target proteins such as MDM2, MDM4 and CCND1 (PubMed:17290220, PubMed:19838211, PubMed: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, 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) |

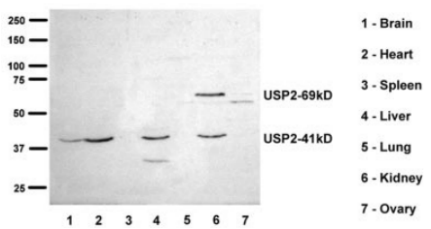
## Background

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.

## References

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

## Images




USP2-41kD 和 USP2-69kD
是小鼠中的主要亚型,每条泳道代表一种组织,分析 USP2
剪接变异体的蛋自表达水平

## Citations

- USP2a protein deubiquitinates and stabilizes the circadian protein CRY1 in response to inflammatory signals.
- Down-regulation of the de-ubiquitinating enzyme ubiquitin-specific protease 2 contributes to tumor necrosis factor-alpha-induced hepatocyte survival.