10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

# USP28 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2152a

## Product Information

| | |
|---|---|
| **Application** | WB, E |
| **Primary Accession** | Q96RU2 |
| **Other Accession** | NP_065937 |
| **Reactivity** | Human |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Clone Names** | RB4435 |
| **Calculated MW** | 122491 |
| **Antigen Region** | 111-141 |

## Additional Information

| | |
|---|---|
| **Gene ID** | 57646 |
| **Other Names** | Ubiquitin carboxyl-terminal hydrolase 28, Deubiquitinating enzyme 28, Ubiquitin thioesterase 28, Ubiquitin-specific-processing protease 28, USP28, KIAA1515 |
| **Target/Specificity** | This USP28 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 111-141 amino acids from the N-terminal region of human USP28. |
| **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** | USP28 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

| | |
|---|---|
| **Name** | USP28 |
| **Synonyms** | KIAA1515 |

| | |
|---|---|
| **Function** | Deubiquitinase involved in DNA damage response checkpoint and MYC proto-oncogene stability. Involved in DNA damage induced apoptosis by specifically deubiquitinating proteins of the DNA damage pathway such as CLSPN. Also involved in G2 DNA damage checkpoint, by deubiquitinating CLSPN, and preventing its degradation by the anaphase promoting complex/cyclosome (APC/C). In contrast, it does not deubiquitinate PLK1. Specifically deubiquitinates MYC in the nucleoplasm, leading to prevent MYC degradation by the proteasome: acts by specifically interacting with isoform 1 of FBXW7 (FBW7alpha) in the nucleoplasm and counteracting ubiquitination of MYC by the SCF(FBW7) complex. In contrast, it does not interact with isoform 4 of FBXW7 (FBW7gamma) in the nucleolus, allowing MYC degradation and explaining the selective MYC degradation in the nucleolus. Deubiquitinates ZNF304, hence preventing ZNF304 degradation by the proteasome and leading to the activated KRAS-mediated promoter hypermethylation and transcriptional silencing of tumor suppressor genes (TSGs) in a subset of colorectal cancers (CRC) cells (PubMed:24623306). |
| **Cellular Location** | Nucleus, nucleoplasm |

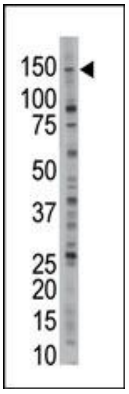
## Background

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

Puente, X.S., et al., Nat. Rev. Genet. 4(7):544-558 (2003).
Valero, R., et al., Genome Biol. 2 (10), RESEARCH0043 (2001).

## Images




The anti-USP28 Pab (Cat. #AP2152a) is used in Western blot to detect USP28 in Jurkat cell lysate.