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# USP4 Antibody
**Chicken Polyclonal Antibody**
**Catalog # ABV11125**

## Specification

### USP4 Antibody - Product Information

| | |
|---|---|
| Application | **WB** |
| Primary Accession | Q13107 |
| Reactivity | **Human** |
| Host | **Chicken** |
| Clonality | **Polyclonal** |
| Isotype | **Chicken IgG** |
| Calculated MW | **108565** |

### USP4 Antibody - Additional Information

**Gene ID** 7375

| | |
|---|---|
| Application & Usage | **Western blot: Robust detection of 100 ng of recombinant protein was possible when antibody was used at a final concentration of 5 µg/mL** |

**Other Names**
Deubiquitinating enzyme 4, Ubiquitin carboxyl-terminal hydrolase 4, Ubiquitin-specific-processing, protease 4, Ubiquitin thioesterase 4, Ubiquitous nuclear protein homolog, UNP, Unph, UNPH, Ubiquitin-specific-processing protease 4.

**Target/Specificity**
USP4

**Antibody Form**
Liquid

**Appearance**
Colorless liquid

**Formulation**
50 µg of antibody in PBS containing 10% glycerol

**Handling**
The antibody solution should be gently mixed before use.

**Reconstitution & Storage**
-20 °C

**Background Descriptions**

**Precautions**
USP4 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

## USP4 Antibody - Protein Information

**Name** USP4 {ECO:0000303|PubMed:30514904, ECO:0000312|HGNC:HGNC:12627}

**Function**
Deubiquitinating enzyme that removes conjugated ubiquitin from target proteins (PubMed:<a href="http://www.uniprot.org/citations/16316627" target="_blank">16316627</a>, PubMed:<a href="http://www.uniprot.org/citations/16472766" target="_blank">16472766</a>, PubMed:<a href="http://www.uniprot.org/citations/16339847" target="_blank">16339847</a>, PubMed:<a href="http://www.uniprot.org/citations/20595234" target="_blank">20595234</a>, PubMed:<a href="http://www.uniprot.org/citations/22347420" target="_blank">22347420</a>, PubMed:<a href="http://www.uniprot.org/citations/25404403" target="_blank">25404403</a>, PubMed:<a href="http://www.uniprot.org/citations/28604766" target="_blank">28604766</a>, PubMed:<a href="http://www.uniprot.org/citations/30514904" target="_blank">30514904</a>). Deubiquitinates PDPK1 (PubMed:<a href="http://www.uniprot.org/citations/22347420" target="_blank">22347420</a>). Deubiquitinates TRIM21 (PubMed:<a href="http://www.uniprot.org/citations/16316627" target="_blank">16316627</a>). Deubiquitinates receptor ADORA2A which increases the amount of functional receptor at the cell surface (PubMed:<a href="http://www.uniprot.org/citations/16339847" target="_blank">16339847</a>). Deubiquitinates HAS2 (PubMed:<a href="http://www.uniprot.org/citations/28604766" target="_blank">28604766</a>). Deubiquitinates RHEB in response to EGF signaling, promoting mTORC1 signaling (PubMed:<a href="http://www.uniprot.org/citations/30514904" target="_blank">30514904</a>). May regulate mRNA splicing through deubiquitination of the U4 spliceosomal protein PRPF3 (PubMed:<a href="http://www.uniprot.org/citations/20595234" target="_blank">20595234</a>). This may prevent its recognition by the U5 component PRPF8 thereby destabilizing interactions within the U4/U6.U5 snRNP (PubMed:<a href="http://www.uniprot.org/citations/20595234" target="_blank">20595234</a>). May also play a role in the regulation of quality control in the ER (PubMed:<a href="http://www.uniprot.org/citations/16339847" target="_blank">16339847</a>).

**Cellular Location**
Cytoplasm. Nucleus. Note=Shuttles between the nucleus and cytoplasm. Exported to the cytoplasm in a CRM1-dependent manner and recycled back to the nucleus via the importin alpha/beta heterodimeric import receptor. The relative amounts found in the nucleus and cytoplasm vary according to the cell type

**Tissue Location**
Overexpressed in small cell tumors and adenocarcinomas of the lung compared to wild-type lung (at protein level). Expressed in the hippocampal neurons

## USP4 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 Cytomety
- Cell Culture

## USP4 Antibody - Images

## USP4 Antibody - Background

Ubiquitinating enzymes (UBEs) catalyze protein ubiquitination, a reversible process countered by deubiquitinating enzyme (DUB) action. Five DUB subfamilies are recognized, including the USP, UCH, OTU, MJD, and JAMM enzymes. USP4 was originally identified during a survey of murine genes near the Mpv20 retroviral insertion site and initially referred to as Ubiquitous Nuclear Protein (UNP). Analysis of the mouse cDNA originally
identified Usp4/Unp as a proto-oncogene related to the human tre-2/tre-17/USP6 proto-oncogene. Usp4/Unp was subsequently observed to contain the conserved Cys and His boxes of the UBP family as well as DUB activity. In a study of primary lung tumor tissue, it was observed that the human homolog of Usp4, USP4/UNPH, had elevated gene expression levels in small cell tumors and adenocarcinomas of the lung, suggesting a causative role for USP4 in neoplasia. Another recent study demonstrated overexpression of USP4 in several types of human cancer and that USP4 positively contributes to cell transformation by negatively regulating p53 levels. Both murine and human USP4 have been shown to interact with the Rb family of tumor suppressor proteins, providing additional mechanistic evidence of a role for USP4 in cellular transformation.