10320 Camino Santa Fe, Suite G
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Tel: 858.875.1900 Fax: 858.875.1999

USP15 Antibody
Chicken Polyclonal Antibody
Catalog # ABV11129

Specification

USP15 Antibody - Product Information

Application	**WB**
Primary Accession	Q9Y4E8
Reactivity	**Human**
Host	**Chicken**
Clonality	**Polyclonal**
Isotype	**Chicken IgG**
Calculated MW	**112419**

USP15 Antibody - Additional Information

Gene ID 9958

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 15, KIAA0529, MGC131982, MGC74854, Ubiquitin carboxyl-terminal hydrolase 15, Ubiquitin-specific-processing protease 15, Ubiquitin thioesterase 15, Unph-2, Unph4, UNPH4, Ubiquitin-specific-processing protease 15

Target/Specificity
USP15

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
USP15 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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USP15 Antibody - Protein Information

Name USP15 {ECO:0000303|PubMed:10444327, ECO:0000312|HGNC:HGNC:12613}

Function
Hydrolase that removes conjugated ubiquitin from target proteins and regulates various pathways such as the TGF-beta receptor signaling, NF-kappa-B and RNF41/NRDP1-PRKN pathways (PubMed:21947082, PubMed:22344298, PubMed:24852371, PubMed:16005295, PubMed:17318178, PubMed:19826004, PubMed:19576224). Acts as a key regulator of TGF-beta receptor signaling pathway, but the precise mechanism is still unclear: according to a report, acts by promoting deubiquitination of monoubiquitinated R-SMADs (SMAD1, SMAD2 and/or SMAD3), thereby alleviating inhibition of R-SMADs and promoting activation of TGF-beta target genes (PubMed:21947082). According to another reports, regulates the TGF-beta receptor signaling pathway by mediating deubiquitination and stabilization of TGFBR1, leading to an enhanced TGF-beta signal (PubMed:22344298). Able to mediate deubiquitination of monoubiquitinated substrates, 'Lys-27'-, 'Lys-48'- and 'Lys-63'-linked polyubiquitin chains (PubMed:33093067). May also regulate gene expression and/or DNA repair through the deubiquitination of histone H2B (PubMed:24526689). Acts as an inhibitor of mitophagy by counteracting the action of parkin (PRKN): hydrolyzes cleavage of 'Lys- 48'- and 'Lys-63'-linked polyubiquitin chains attached by parkin on target proteins such as MFN2, thereby reducing parkin's ability to drive mitophagy (PubMed:24852371). Acts as an associated component of COP9 signalosome complex (CSN) and regulates different pathways via this association: regulates NF-kappa-B by mediating deubiquitination of NFKBIA and deubiquitinates substrates bound to VCP (PubMed:16005295, PubMed:17318178, PubMed:19826004, PubMed:19576224). Involved in endosome organization by mediating deubiquitination of SQSTM1: ubiquitinated SQSTM1 forms a molecular bridge that restrains cognate vesicles in the perinuclear region and its deubiquitination releases target vesicles for fast transport into the cell periphery (PubMed:27368102). Acts as a negative regulator of antifungal immunity by mediating 'Lys-27'-linked deubiquitination of CARD9, thereby inactivating CARD9 (PubMed:33093067).

Cellular Location
Cytoplasm. Nucleus. Mitochondrion

Tissue Location
Expressed in skeletal muscle, kidney, heart, placenta, liver, thymus, lung, and ovary, with little or no expression in other tissues

USP15 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

USP15 Antibody - Images

USP15 Antibody - Background

The ubiquitin (Ub) pathway involves three sequential enzymatic steps that facilitate the conjugation of Ub and Ub-like molecules to specific protein substrates. Through the use of a wide range of enzymes that can add or remove ubiquitin, the Ub pathway controls many intracellular processes such as signal transduction, transcriptional activation and cell cycle progression. USP15 (ubiquitin specific peptidase 15), also known as UNPH4, is a member of the peptidase C19 family of proteins. Expressed in kidney, liver, placenta, ovary, lung, thymus, heart and skeletal muscle, USP15 localizes to the cytoplasm and the nucleus, contains one DUSP domain and functions as a deubiquitinating enzyme that cleaves ubiquitin residues from both ubiquitinylated proteins and ubiquitin-fused precursors, thereby saving these proteins from proteasomal degradation. Via its DUSP domain, USP15 plays a role in the regulation of the COP9 signalosome (CSN) complex. Three isoforms exist for USP15 due to alternative splicing events.