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

USP10 Antibody (N-Terminus)
Rabbit Polyclonal Antibody
Catalog # ALS13945

Specification

USP10 Antibody (N-Terminus) - Product Information

Application	**ICC, IF, WB, IHC**
Primary Accession	Q14694
Reactivity	**Human, Mouse**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**87kDa KDa**

USP10 Antibody (N-Terminus) - Additional Information

Gene ID 9100

Other Names
Ubiquitin carboxyl-terminal hydrolase 10, 3.4.19.12, Deubiquitinating enzyme 10, Ubiquitin thioesterase 10, Ubiquitin-specific-processing protease 10, USP10, KIAA0190

Target/Specificity
Human USP10

Reconstitution & Storage
Short term 4°C, long term aliquot and store at -20°C, avoid freeze thaw cycles. Store undiluted.

Precautions
USP10 Antibody (N-Terminus) is for research use only and not for use in diagnostic or therapeutic procedures.

USP10 Antibody (N-Terminus) - Protein Information

Name USP10 {ECO:0000303|PubMed:11439350, ECO:0000312|HGNC:HGNC:12608}

Function
Hydrolase that can remove conjugated ubiquitin from target proteins such as p53/TP53, RPS2/us5, RPS3/us3, RPS10/eS10, BECN1, SNX3 and CFTR (PubMed:11439350, PubMed:18632802, PubMed:31981475). Acts as an essential regulator of p53/TP53 stability: in unstressed cells, specifically deubiquitinates p53/TP53 in the cytoplasm, leading to counteract MDM2 action and stabilize p53/TP53 (PubMed:20096447). Following DNA damage, translocates to the nucleus and deubiquitinates p53/TP53, leading to regulate the p53/TP53-dependent DNA damage response (PubMed:20096447). Component of a regulatory loop that controls autophagy and p53/TP53 levels: mediates deubiquitination of

BECN1, a key regulator of autophagy, leading to stabilize the PIK3C3/VPS34-containing complexes (PubMed:21962518). In turn, PIK3C3/VPS34-containing complexes regulate USP10 stability, suggesting the existence of a regulatory system by which PIK3C3/VPS34-containing complexes regulate p53/TP53 protein levels via USP10 and USP13 (PubMed:21962518). Does not deubiquitinate MDM2 (PubMed:20096447). Plays a key role in 40S ribosome subunit recycling when a ribosome has stalled during translation: acts both by inhibiting formation of stress granules, which store stalled translation pre-initiation complexes, and mediating deubiquitination of 40S ribosome subunits (PubMed:27022092, PubMed:31981475, PubMed:34348161, PubMed:34469731). Acts as a negative regulator of stress granules formation by lowering G3BP1 and G3BP2 valence, thereby preventing G3BP1 and G3BP2 ability to undergo liquid- liquid phase separation (LLPS) and assembly of stress granules (PubMed:11439350, PubMed:27022092, PubMed:32302570). Promotes 40S ribosome subunit recycling following ribosome dissociation in response to ribosome stalling by mediating deubiquitination of 40S ribosomal proteins RPS2/us5, RPS3/us3 and RPS10/eS10, thereby preventing their degradation by the proteasome (PubMed:31981475, PubMed:34348161, PubMed:34469731). Part of a ribosome quality control that takes place when ribosomes have stalled during translation initiation (iRQC): USP10 acts by removing monoubiquitination of RPS2/us5 and RPS3/us3, promoting 40S ribosomal subunit recycling (PubMed:34469731). Deubiquitinates CFTR in early endosomes, enhancing its endocytic recycling (PubMed:19398555). Involved in a TANK-dependent negative feedback response to attenuate NF-kappa-B activation via deubiquitinating IKBKG or TRAF6 in response to interleukin-1-beta (IL1B) stimulation or upon DNA damage (PubMed:25861989). Deubiquitinates TBX21 leading to its stabilization (PubMed:24845384). Plays a negative role in the RLR signaling pathway upon RNA virus infection by blocking the RIGI-mediated MAVS activation. Mechanistically, removes the unanchored 'Lys- 63'-linked polyubiquitin chains of MAVS to inhibit its aggregation, essential for its activation (PubMed:37582970).

Cellular Location
Cytoplasm. Nucleus. Early endosome. Note=Cytoplasmic in normal conditions (PubMed:20096447). After DNA damage, translocates to the nucleus following phosphorylation by ATM (PubMed:20096447)

Tissue Location
Widely expressed..

USP10 Antibody (N-Terminus) - Protocols

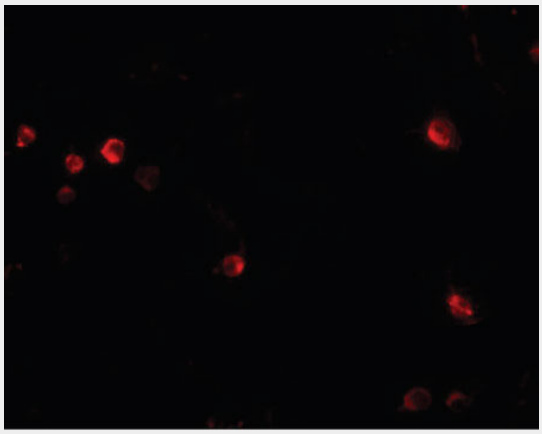
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides

- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

USP10 Antibody (N-Terminus) - Images

Immunocytochemistry of USP10 in Jurkat cells with USP10 antibody at 20 ug/ml.



Immunofluorescence of USP10 in Jurkat cells with USP10 antibody at 20 ug/ml.

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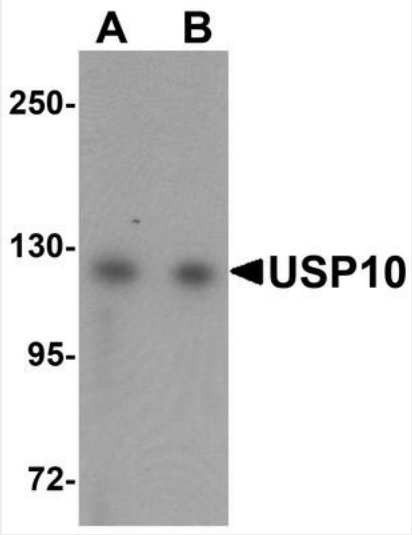
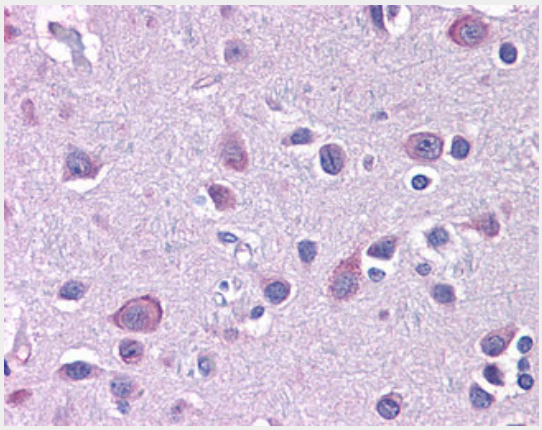
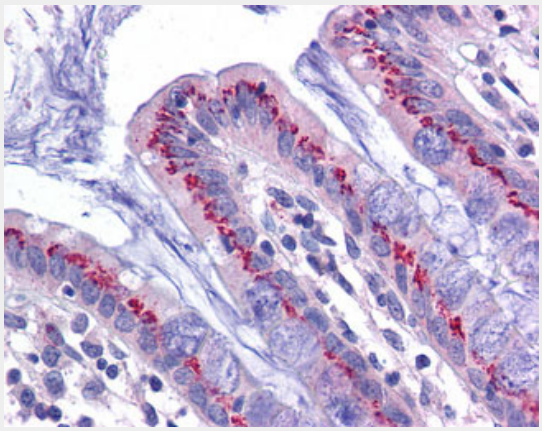


Western blot analysis of USP10 in Jurkat cell lysate with USP10 antibody at (A) 1 and (B) 2 ug/ml.



Anti-USP10 antibody IHC of human brain, cortex.



Anti-USP10 antibody IHC of human colon.

USP10 Antibody (N-Terminus) - Background

Hydrolase that can remove conjugated ubiquitin from target proteins such as p53/TP53, BECN1, SNX3 and CFTR. Acts as an essential regulator of p53/TP53 stability: in unstressed cells, specifically deubiquitinates p53/TP53 in the cytoplasm, leading to counteract MDM2 action and stabilize p53/TP53. Following DNA damage, translocates to the nucleus and deubiquitinates p53/TP53, leading to regulate the p53/TP53-dependent DNA damage response. Component of a regulatory

loop that controls autophagy and p53/TP53 levels: mediates deubiquitination of BECN1, a key regulator of autophagy, leading to stabilize the PIK3C3/VPS34- containing complexes. In turn, PIK3C3/VPS34-containing complexes regulate USP10 stability, suggesting the existence of a regulatory system by which PIK3C3/VPS34-containing complexes regulate p53/TP53 protein levels via USP10 and USP13. Does not deubiquitinate MDM2. Deubiquitinates CFTR in early endosomes, enhancing its endocytic recycling.

USP10 Antibody (N-Terminus) - References

Soncini C.,et al.Oncogene 20:3869-3879(2001).
Nagase T.,et al.DNA Res. 3:17-24(1996).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Bechtel S.,et al.BMC Genomics 8:399-399(2007).
Martin J.,et al.Nature 432:988-994(2004).