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USP3 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP2132a

Specification

USP3 Antibody (N-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	Q9Y6I4
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**58897**
Antigen Region	**114-143**

USP3 Antibody (N-term) - Additional Information

Gene ID 9960

Other Names
Ubiquitin carboxyl-terminal hydrolase 3, Deubiquitinating enzyme 3, Ubiquitin thioesterase 3, Ubiquitin-specific-processing protease 3, USP3

Target/Specificity
This USP3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 114-143 amino acids from the N-terminal region of human USP3.

Dilution
WB~~1:1000
IHC-P~~1:50~100
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
USP3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

USP3 Antibody (N-term) - Protein Information

Name USP3

Function Deubiquitinase that plays a role in several cellular processes including transcriptional regulation, cell cycle progression or innate immunity. In response to DNA damage, deubiquitinates monoubiquitinated target proteins such as histone H2A and H2AX and thereby counteracts RNF168- and RNF8-mediated ubiquitination. In turn, participates in the recruitment of DNA damage repair factors to DNA break sites (PubMed:24196443). Required for proper progression through S phase and subsequent mitotic entry (PubMed:17980597). Acts as a positive regulator of TP53 by deubiquitinating and stabilizing it to promote normal cell proliferation and transformation (PubMed:28807825). Participates in establishing tolerance innate immune memory through non-transcriptional feedback. Mechanistically, negatively regulates TLR-induced NF-kappa-B signaling by targeting and removing the 'Lys- 63'-linked polyubiquitin chains on MYD88 (PubMed:37971847). Negatively regulates the activation of type I interferon signaling by mediating 'Lys-63'-linked polyubiquitin chains on RIGI and IFIH1 (PubMed:24366338). Also deubiquinates ASC/PYCARD, the central adapter mediating the assembly and activation of most inflammasomes, and thereby promotes inflammasome activation (PubMed:36050480).

Cellular Location
Nucleus. Cytoplasm. Note=Localizes preferentially with monoubiquitinated H2A to chromatin (PubMed:17980597). Upon NF-kappa-B signaling activation, exits the nucleus (PubMed:37971847)

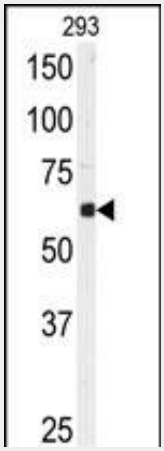
Tissue Location
Expressed in all tissues examined, with strongest expression in pancreas

USP3 Antibody (N-term) - 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

USP3 Antibody (N-term) - Images



Western blot analysis of anti-USP3 Antibody (N-term) (Cat.#AP2132a) in 293 cell line lysates (35ug/lane). USP3 (arrow) was detected using the purified Pab.

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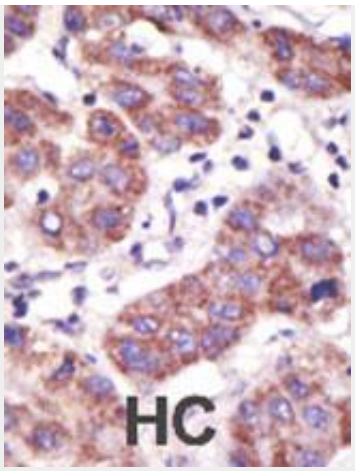

Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

USP3 Antibody (N-term) - 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.

USP3 Antibody (N-term) - References

Puente, X.S., et al., Nat. Rev. Genet. 4(7):544-558 (2003). Sloper-Mould, K.E., et al., J. Biol. Chem. 274(38):26878-26884 (1999).