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USP19 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP2145b

Specification

USP19 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession	O94966
Other Accession	NP_006668

USP19 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 10869

Other Names
Ubiquitin carboxyl-terminal hydrolase 19, Deubiquitinating enzyme 19, Ubiquitin thioesterase 19, Ubiquitin-specific-processing protease 19, Zinc finger MYND domain-containing protein 9, USP19, KIAA0891, ZMYND9

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2145b was selected from the C-term region of human USP19 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

USP19 Antibody (C-term) Blocking Peptide - Protein Information

Name USP19

Synonyms KIAA0891, ZMYND9

Function
Deubiquitinating enzyme that regulates the degradation of various proteins by removing ubiquitin moieties, thereby preventing their proteasomal degradation. Stabilizes RNF123, which promotes CDKN1B degradation and contributes to cell proliferation (By similarity). Decreases the levels of ubiquitinated proteins during skeletal muscle formation and acts to repress myogenesis. Modulates transcription of major myofibrillar proteins. Also involved in turnover of endoplasmic-reticulum-associated degradation (ERAD) substrates (PubMed:19465887, PubMed:<a

href="http://www.uniprot.org/citations/24356957" target="_blank">24356957). Mechanistically, deubiquitinates and thereby stabilizes several E3 ligases involved in the ERAD pathway including SYVN1 or MARCHF6 (PubMed:24356957). Regulates the stability of other E3 ligases including BIRC2/c-IAP1 and BIRC3/c-IAP2 by preventing their ubiquitination (PubMed:21849505). Required for cells to mount an appropriate response to hypoxia by rescuing HIF1A from degradation in a non-catalytic manner and by mediating the deubiquitination of FUNDC1 (PubMed:22128162, PubMed:33978709). Attenuates mitochondrial damage and ferroptosis by targeting and stabilizing NADPH oxidase 4/NOX4 (PubMed:38943386). Negatively regulates TNF-alpha- and IL-1beta- triggered NF-kappa-B activation by hydrolyzing 'Lys-27'- and 'Lys-63'- linked polyubiquitin chains from MAP3K7 (PubMed:31127032). Modulates also the protein level and aggregation of polyQ-expanded huntingtin/HTT through HSP90AA1 (PubMed:33094816).

Cellular Location
Endoplasmic reticulum membrane; Single-pass membrane protein. Note=Accumulates in the mitochondria-associated ER membrane (MAM) in response to hypoxia

USP19 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

USP19 Antibody (C-term) Blocking Peptide - Images

USP19 Antibody (C-term) Blocking Peptide - 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.

USP19 Antibody (C-term) Blocking Peptide - References

Nagase, T., et al., DNA Res. 5(6):355-364 (1998).