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USP19 Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP51603

Product Information

Application	WB, IHC-P
Primary Accession	O94966
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	145651

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
Dilution	WB~~1:1000 IHC-P~~N/A
Format	0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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: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- 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

Background

Deubiquitinating enzyme that regulates the degradation of various proteins. Deubiquitinates and prevents proteasomal degradation of RNF123 which in turn stimulates CDKN1B ubiquitin- dependent degradation thereby playing a role in cell proliferation. Involved in decreased protein synthesis in atrophying skeletal muscle. Modulates transcription of major myofibrillar proteins. Also involved in turnover of endoplasmic-reticulum-associated degradation (ERAD) substrates. Regulates the stability of BIRC2/c-IAP1 and BIRC3/c-IAP2 by preventing their ubiquitination. Required for cells to mount an appropriate response to hypoxia and rescues HIF1A from degradation in a non- catalytic manner. Plays an important role in 17 beta-estradiol (E2)-inhibited myogenesis. Decreases the levels of ubiquitinated proteins during skeletal muscle formation and acts to repress myogenesis. Exhibits a preference towards 'Lys-63'-linked Ubiquitin chains.

References

Nagase T.,et al.DNA Res. 5:355-364(1998).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Muzny D.M.,et al.Nature 440:1194-1198(2006).
Dephoure N.,et al.Proc. Natl. Acad. Sci. U.S.A. 105:10762-10767(2008).
Hassink G.C.,et al.EMBO Rep. 10:755-761(2009).

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