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USP14 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP19898b

Product Information

Application	WB, E
Primary Accession	P54578
Other Accession	Q9JMA1, Q0IIF7, NP_005142.1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB41691
Calculated MW	56069
Antigen Region	355-383

Additional Information

Gene ID	9097
Other Names	Ubiquitin carboxyl-terminal hydrolase 14, Deubiquitinating enzyme 14, Ubiquitin thioesterase 14, Ubiquitin-specific-processing protease 14, USP14, TGT
Target/Specificity	This USP14 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 355-383 amino acids from the C-terminal region of human USP14.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
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	USP14 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	USP14
Synonyms	TGT

Function	Proteasome-associated deubiquitinase which releases ubiquitin from the proteasome targeted ubiquitinated proteins (PubMed:35145029). Ensures the regeneration of ubiquitin at the proteasome (PubMed:18162577, PubMed:28396413). Is a reversibly associated subunit of the proteasome and a large fraction of proteasome-free protein exists within the cell (PubMed:18162577). Required for the degradation of the chemokine receptor CXCR4 which is critical for CXCL12-induced cell chemotaxis (PubMed:19106094). Also serves as a physiological inhibitor of endoplasmic reticulum-associated degradation (ERAD) under the non-stressed condition by inhibiting the degradation of unfolded endoplasmic reticulum proteins via interaction with ERN1 (PubMed:19135427). Indispensable for synaptic development and function at neuromuscular junctions (NMJs) (By similarity). Plays a role in the innate immune defense against viruses by stabilizing the viral DNA sensor CGAS and thus inhibiting its autophagic degradation (PubMed:27666593). Inhibits OPTN-mediated selective autophagic degradation of KDM4D and thereby negatively regulates H3K9me2 and H3K9me3 (PubMed:35145029).
Cellular Location	Cytoplasm. Cell membrane; Peripheral membrane protein

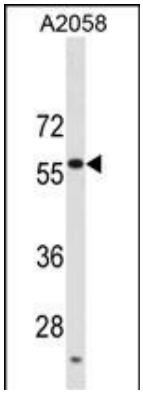
Background

This gene encodes a member of the ubiquitin-specific processing (UBP) family of proteases that is a deubiquitinating enzyme (DUB) with His and Cys domains. This protein is located in the cytoplasm and cleaves the ubiquitin moiety from ubiquitin-fused precursors and ubiquitinylated proteins. Mice with a mutation that results in reduced expression of the ortholog of this protein are retarded for growth, develop severe tremors by 2 to 3 weeks of age followed by hindlimb paralysis and death by 6 to 10 weeks of age. Alternate transcriptional splice variants, encoding different isoforms, have been characterized.

References

Davila, S., et al. Genes Immun. 11(3):232-238(2010)
Chen, P.C., et al. J. Neurosci. 29(35):10909-10919(2009)
Mines, M.A., et al. J. Biol. Chem. 284(9):5742-5752(2009)
Nagai, A., et al. Biochem. Biophys. Res. Commun. 379(4):995-1000(2009)
Koulich, E., et al. Mol. Biol. Cell 19(3):1072-1082(2008)

Images



USP14 Antibody (C-term) (Cat. #AP19898b) western blot analysis in A2058 cell line lysates (35ug/lane).This demonstrates the USP14 antibody detected the USP14 protein (arrow).

Citations

- A new gold(I) complex-Au(PPh)PT is a deubiquitinase inhibitor and inhibits tumor growth.

- Ubiquitin-specific protease-14 reduces cellular aggregates and protects against mutant huntingtin-induced cell degeneration: involvement of the proteasome and ER stress-activated kinase IRE1α.