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USP14 Antibody (N-term)

Mouse Monoclonal Antibody (Mab)
Catalog # AW5187

Product Information

Application	WB, FC
Primary Accession	P54578
Reactivity	Human, Mouse, Rat
Host	Mouse
Clonality	Monoclonal
Calculated MW	56069
Isotype	IgG1
Antigen Source	Human

Additional Information

Gene ID	9097
Antigen Region	1-474
Other Names	USP14;TGT; Ubiquitin carboxyl-terminal hydrolase 14; Ubiquitin carboxyl-terminal hydrolase 14; Deubiquitinating enzyme 14; Ubiquitin carboxyl-terminal hydrolase 14; Ubiquitin thioesterase 14; Ubiquitin carboxyl-terminal hydrolase 14; Ubiquitin-specific-processing protease 14
Dilution	WB~~1:1000 FC~~1:25
Target/Specificity	Purified His-tagged USP14 protein was used to produced this monoclonal antibody.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, 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	USP14 Antibody (N-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

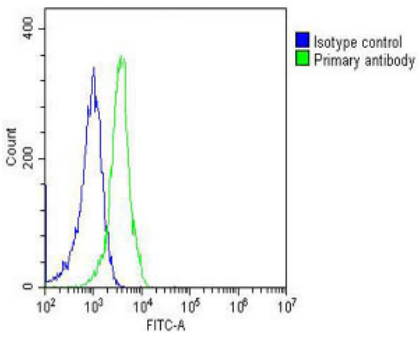
Background

Proteasome-associated deubiquitinase which releases ubiquitin from the proteasome targeted ubiquitinated proteins. Ensures the regeneration of ubiquitin at the proteasome. Is a reversibly associated subunit of the proteasome and a large fraction of proteasome-free protein exists within the cell. Required for the degradation of the chemokine receptor CXCR4 which is critical for CXCL12-induced cell chemotaxis. Serves also 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. Indispensable for synaptic development and function at neuromuscular junctions (NMJs).

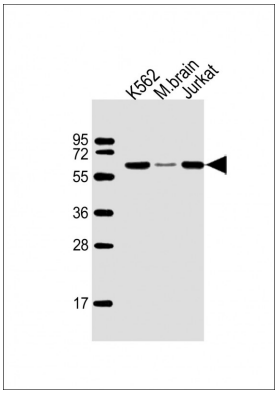
References

Deshpande K.L., et al. Submitted (AUG-1995) to the EMBL/GenBank/DDBJ databases.
Kalnine N., et al. Submitted (MAY-2003) to the EMBL/GenBank/DDBJ databases.
Reuter T.Y., et al. Exp. Cell Res. 289:211-221(2003).
Carrascal M., et al. J. Proteome Res. 7:5167-5176(2008).
Koulich E., et al. Mol. Biol. Cell 19:1072-1082(2008).

Images



Overlay histogram showing Jurkat cells stained with AW5650(green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AW5187, 1:25 dilution) for 60 min at 37°C. The secondary antibody used was Goat-Anti-Mouse IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(OJ192088) at 1/200 dilution for 40 min at 37°C. Isotype control antibody (blue line) was mouse IgG1 (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.



All lanes : Anti-USP14 Antibody (N-term) at 1:2000 dilution Lane 1: K562 whole cell lysate Lane 2: mouse brain whole cell lysate Lane 3: Jurkat whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 56 kDa Blocking/Dilution buffer: 5% NFDM/TBST.