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USP14 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP2142a

Specification

USP14 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession	P54578
Other Accession	NP_005142

USP14 Antibody (N-term) Blocking Peptide - 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
The synthetic peptide sequence used to generate the antibody AP2142a was selected from the N-term region of human USP14 . 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.

USP14 Antibody (N-term) Blocking Peptide - 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

USP14 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

USP14 Antibody (N-term) Blocking Peptide - Images

USP14 Antibody (N-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.

USP14 Antibody (N-term) Blocking Peptide - References

Puente, X.S., et al., Nat. Rev. Genet. 4(7):544-558 (2003).D'Andrea, A., et al., Crit. Rev. Biochem. Mol. Biol. 33(5):337-352 (1998).Deshpande, K.L., et al., Arch. Biochem. Biophys. 326(1):1-7 (1996).