10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

USP12/USP46 Antibody (C-term) Blocking peptide

Synthetic peptide
Catalog # BP2140b

Specification

USP12/USP46 Antibody (C-term) Blocking peptide - Product Information

Primary Accession	O75317
Other Accession	NP_872294

USP12/USP46 Antibody (C-term) Blocking peptide - Additional Information

Gene ID 219333

Other Names
Ubiquitin carboxyl-terminal hydrolase 12, Deubiquitinating enzyme 12, Ubiquitin thioesterase 12, Ubiquitin-hydrolyzing enzyme 1, Ubiquitin-specific-processing protease 12, USP12, UBH1, USP12L1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2140b was selected from the C-term region of human USP12 . 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.

USP12/USP46 Antibody (C-term) Blocking peptide - Protein Information

Name USP12

Synonyms UBH1, USP12L1

Function
Deubiquitinating enzyme that plays various roles in the regulation of the immune response and inflammation (PubMed:19075014, PubMed:27373336). In complex with WDR48, acts as a potential tumor suppressor by positively regulating PHLPP1 stability (PubMed:24145035). During TCR engagement and activation, translocates into the cytoplasm and deubiquitinates its substrates LAT and TRAT1 and prevents their lysosome-dependent degradation to stabilize the TCR signaling

complex at the plasma membrane (PubMed:26811477). Plays an essential role in the selective LPS-induced macrophage response through the activation of NF-kappa-B pathway (PubMed:28063927). In addition, promotes that antiviral immune response through targeting DNA sensor IFI16 to inhibit its proteasome-dependent degradation (PubMed:37410794). Participates in the interferon signaling pathway and antiviral response independently of its deubiquitinase activity by maintaining nuclear phosphorylated STAT1 levels via inhibition of its CREBBP-mediated acetylation and subsequent dephosphorylation (PubMed:31899788). Plays an intrinsic role in promoting the differentiation, activation and proliferation of CD4(+) T-cell by activating the NF-kappa-B signaling pathway through deubiquitinating and stabilizing B-cell lymphoma/leukemia 10/BCL10 (By similarity). In myeloid-derived suppressor cells promotes the activation of the NF-kappa-B via deubiquitination and stabilization of RELA (By similarity). Regulates the 'Lys-63'-linked polyubiquitin chains of BAX and thereby modulates the mitochondrial apoptotic process (PubMed:36361894).

Cellular Location

Nucleus. Cytoplasm. Cell membrane. Note=Translocates from the nucleus to the cytosol on TCR stimulation, while it translocates into the nucleus in IFN signaling. USP12/WDR20/WDR48 complex is localized mainly to the plasma membrane (PubMed:30466959).

USP12/USP46 Antibody (C-term) Blocking peptide - Protocols

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

- Blocking Peptides

USP12/USP46 Antibody (C-term) Blocking peptide - Images

USP12/USP46 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.

USP12/USP46 Antibody (C-term) Blocking peptide - References

Hansen-Hagge, T.E., et al., Genomics 49(3):411-418 (1998).