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UCHL1 Antibody (N-term) Blocking peptide
Synthetic peptide
Catalog # BP2126a

Specification

UCHL1 Antibody (N-term) Blocking peptide - Product Information

Primary Accession P09936

UCHL1 Antibody (N-term) Blocking peptide - Additional Information

Gene ID 7345

Other Names
Ubiquitin carboxyl-terminal hydrolase isozyme L1, UCH-L1, 6---, Neuron cytoplasmic protein 95, PGP 95, PGP95, Ubiquitin thioesterase L1, UCHL1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2126a was selected from the Park5 region of human UCHL1 (Park5) . 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.

UCHL1 Antibody (N-term) Blocking peptide - Protein Information

Name UCHL1

Function
Deubiquitinase that plays a role in the regulation of several processes such as maintenance of synaptic function, cardiac function, inflammatory response or osteoclastogenesis (PubMed:22212137, PubMed:23359680). Abrogates the ubiquitination of multiple proteins including WWTR1/TAZ, EGFR, HIF1A and beta-site amyloid precursor protein cleaving enzyme 1/BACE1 (PubMed:22212137, PubMed:25615526). In addition, recognizes and hydrolyzes a peptide bond at the C-terminal glycine of ubiquitin to maintain a stable pool of monoubiquitin that is a key requirement for the ubiquitin-proteasome and the autophagy- lysosome pathways (PubMed:<a href="http://www.uniprot.org/citations/9774100"

target="_blank">9774100, PubMed:8639624, PubMed:12408865). Regulates amyloid precursor protein/APP processing by promoting BACE1 degradation resulting in decreased amyloid beta production (PubMed:22212137). Plays a role in the immune response by regulating the ability of MHC I molecules to reach cross-presentation compartments competent for generating Ag-MHC I complexes (By similarity). Mediates the 'Lys-48'-linked deubiquitination of the transcriptional coactivator WWTR1/TAZ leading to its stabilization and inhibition of osteoclastogenesis (By similarity). Deubiquitinates and stabilizes epidermal growth factor receptor EGFR to prevent its degradation and to activate its downstream mediators (By similarity). Modulates oxidative activity in skeletal muscle by regulating key mitochondrial oxidative proteins (By similarity). Enhances the activity of hypoxia-inducible factor 1-alpha/HIF1A by abrogateing its VHL E3 ligase-mediated ubiquitination and consequently inhibiting its degradation (PubMed:25615526).

Cellular Location
Cytoplasm. Endoplasmic reticulum membrane; Lipid- anchor. Note=About 30% of total UCHL1 is associated with membranes in brain. Localizes near and/or within mitochondria to potentially interact with mitochondrial proteins {ECO:0000250|UniProtKB:Q9R0P9}

Tissue Location
Found in neuronal cell bodies and processes throughout the neocortex (at protein level). Expressed in neurons and cells of the diffuse neuroendocrine system and their tumors. Weakly expressed in ovary. Down-regulated in brains from Parkinson disease and Alzheimer disease patients.

UCHL1 Antibody (N-term) Blocking peptide - Protocols

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

- Blocking Peptides

UCHL1 Antibody (N-term) Blocking peptide - Images

UCHL1 Antibody (N-term) Blocking peptide - Background

Ubiquitin is a 76 amino acid highly conserved eukaryotic polypeptide that selectively marks cellular proteins for proteolytic degradation by the 26S proteasome. The process of target selection, covalent attachment and shuttle to the 26S proteasome is a vital means of regulating the concentrations of key regulatory proteins in the cell by limiting their lifespans. Polyubiquitination is a common feature of this modification. Serial steps for modification include the activation of ubiquitin, an ATP-dependent formation of a thioester bond between ubiquitin and the enzyme E1, transfer by transacylation of ubiquitin from E1 to the ubiquitin conjugating enzyme E2, and covalent linkage to the target protein directly by E2 or via E3 ligase enzyme. Deubiquitination enzymes also exist to reverse the marking of protein substrates. Posttranslational tagging by Ub is involved in a multitude of cellular processes, including the cell cycle, cell growth and differentiation, embryogenesis, apoptosis, signal transduction, DNA repair, regulation of transcription and DNA replication, transmembrane transport, stress responses, the immune response, and nervous system functions.

UCHL1 Antibody (N-term) Blocking peptide - References

Maraganore, D.M., et al., Mov Disord 18(6):631-636 (2003).Nishikawa, K., et al., Biochem. Biophys. Res. Commun. 304(1):176-183 (2003).Liu, Y., et al., Cell 111(2):209-218 (2002).Caballero, O.L., et al., Oncogene 21(19):3003-3010 (2002).Saigoh, K., et al., Nat. Genet. 23(1):47-51 (1999).