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

UCHL1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2126A

Product Information

Application	WB, IHC-P, IF, FC, E
Primary Accession	P09936
Other Accession	Q6SEG5, P23356
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Pig
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB04183
Calculated MW	24824
Antigen Region	16-46

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	This UCHL1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 16-46 amino acids from the N-terminal region of human UCHL1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation 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	UCHL1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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:12408865, PubMed:8639624, PubMed:9774100). 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.

Background

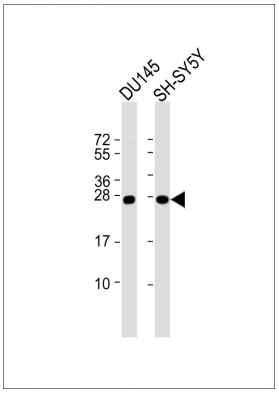
UCHL1 is a member of a gene family whose products hydrolyze small C-terminal adducts of ubiquitin to generate the ubiquitin monomer. Expression of UCHL1 is highly specific to neurons and to cells of the diffuse neuroendocrine system and their tumors. It is present in all neurons (Doran et al., 1983 [PubMed 6343558]).

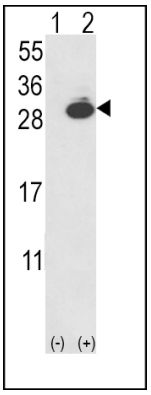
References

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).

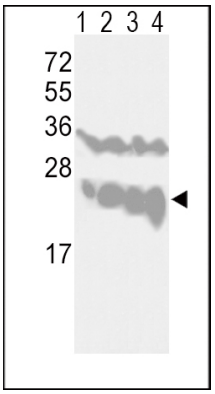
Images

All lanes : Anti-UCHL1 Antibody (V31) at 1:1000 dilution Lane 1: DU145 whole cell lysate Lane 2: SH-SY5Y whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 25 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

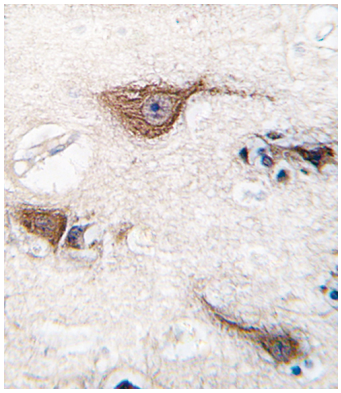




Western blot analysis of UCHL1 (arrow) using rabbit polyclonal UCHL1-V31 (Cat. #AP2126a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the UCHL1 gene (Lane 2) (Origene Technologies).

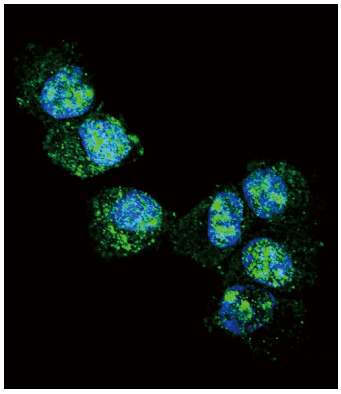


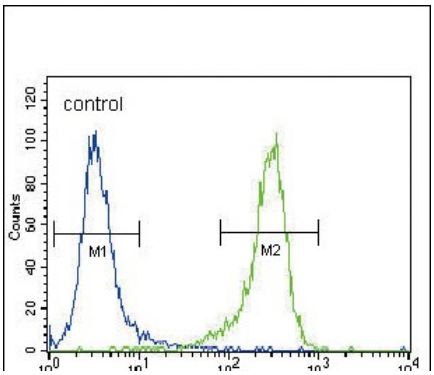
Western blot analysis of UCHL1-V31 (Cat. #AP2126a) in CEM(lane 1), Jurkat(lane 2), Y79(lane 3) cell line and mouse brain tissue(lane 4) lysates (35ug/lane). UCHL1 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain tissue reacted with UCHL1 (Park5) antibody (N-term) (Cat.#AP2126a), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Confocal immunofluorescent analysis of UCHL1 Antibody (N-term)(Cat#AP2126a) with NCI-H460 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit lgG (green).DAPI was used to stain the cell nuclear (blue).





UCHL1 Antibody (N-term) (Cat. #AP2126a) flow cytometric analysis of NCI-H460 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.