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# UCHL1 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2126b

## Product Information

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| **Application** | IHC-P, FC, IF, WB, E |
| **Primary Accession** | P09936 |
| **Other Accession** | Q00981, Q6SEG5, Q9R0P9, Q60HC8, P23356 |
| **Reactivity** | Human, Rat, Mouse |
| **Predicted** | Monkey, Pig, Bovine, Canine, Rabbit, Chicken |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Isotype** | Rabbit IgG |
| **Calculated MW** | 24824 |
| **Antigen Region** | 187-216 |

## Additional Information

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| **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 187-216 amino acids from the C-terminal region of human UCHL1. |
| **Dilution** | IHC-P~~1:100~500 FC~~1:10~50 IF~~1:10~50 WB~~1:1000 E~~Use at an assay dependent concentration. |
| **Format** | Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification. |
| **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 (C-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

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| **Name** | UCHL1 |
| **Function** | Deubiquitinase that plays a role in the regulation of several processes such as maintenance of synaptic function, cardiac function, inflammatory response |

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| | 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

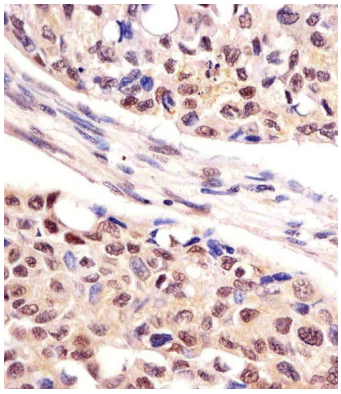
UCHL1 is a member of a gene family whose products hydrolyze small C-terminal adducts of ubiquitin to generate the ubiquitin monomer. Expression of UCHL1 is highly specific to neurons and to cells of the diffuse neuroendocrine system and their tumors. It is present in all neurons (Doran et al., 1983 [PubMed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

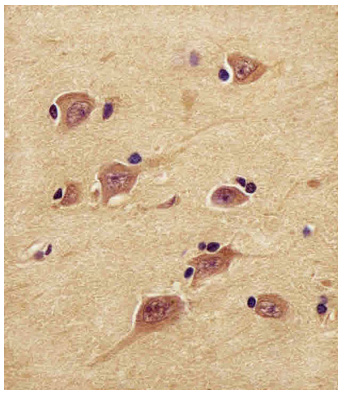
## References

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).

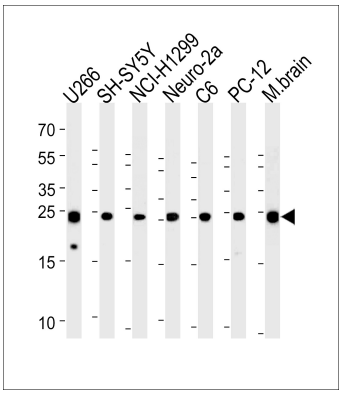
## Images

AP2126b staining UCHL1 in human lung adenocarcinoma tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

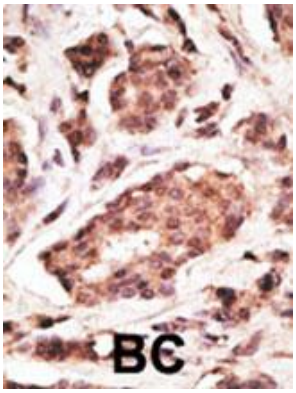




AP2126b staining UCHL1 in human brain tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.

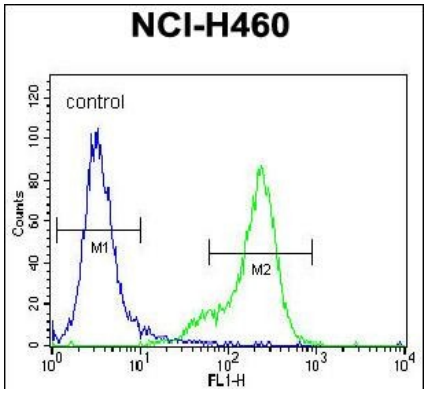


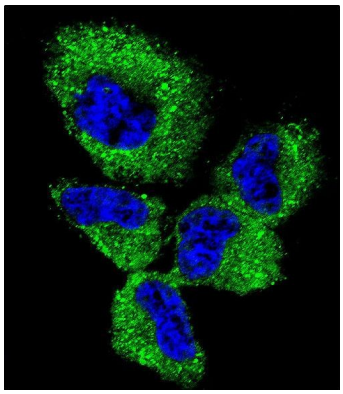

UCHL1 Antibody (C-term)(Cat. #AP2126b) western blot analysis in U266,SH-SY5Y,NCI-H1299,mouse Neuro-2a,rat C6,PC-12 cell line and mouse brain tissue lysates (35ug/lane).This demonstrates the UCHL1 antibody detected the UCHL1 protein (arrow).




Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, 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. BC = breast carcinoma; HC = hepatocarcinoma.

UCHL1 Antibody (C-term) (Cat. #AP2126b) 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.



Confocal immunofluorescent analysis of UCHL1 Antibody (C-term)(Cat#AP2126b) with NCI-H460 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green).DAPI was used to stain the cell nuclear (blue).

## Citations

- Sexual precocity in male microminipigs evaluated immunohistologically using spermatogonial stem cell markers.
- Proteasome inhibition attenuates coxsackievirus-induced myocardial damage in mice.
- Smooth Muscle Hgs Deficiency Leads to Impaired Esophageal Motility.
- Characterization of domestic pig spermatogenesis using spermatogonial stem cell markers in the early months of life.

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