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UCHL3 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2127b

Product Information

Application	WB, IHC-P, E
Primary Accession	P15374
Other Accession	P58321, Q91Y78, Q06AB3, Q9JKB1, Q2TBG8
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Mouse, Pig, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	26183
Antigen Region	195-225

Additional Information

Gene ID	7347
Other Names	Ubiquitin carboxyl-terminal hydrolase isozyme L3, UCH-L3, Ubiquitin thioesterase L3, UCHL3
Target/Specificity	This UCHL3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 195-225 amino acids from the C-terminal region of human UCHL3.
Dilution	WB~~1:1000 IHC-P~~1:100~500 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	UCHL3 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	UCHL3 {ECO:0000303|PubMed:19047059, ECO:0000312|HGNC:HGNC:12515}
Function	Deubiquitinating enzyme (DUB) that controls levels of cellular ubiquitin through processing of ubiquitin precursors and ubiquitinated proteins

(PubMed:19154770, PubMed:21762696, PubMed:22689415, PubMed:2530630). Thiol protease that recognizes and hydrolyzes a peptide bond at the C-terminal glycine of either ubiquitin or NEDD8 (PubMed:19154770, PubMed:21762696, PubMed:22689415, PubMed:2530630, PubMed:9790970). Has a 10-fold preference for Arg and Lys at position P3'', and exhibits a preference towards 'Lys-48'-linked ubiquitin chains (PubMed:19154770, PubMed:21762696, PubMed:22689415, PubMed:2530630). Can hydrolyze UBB(+1), a mutated form of ubiquitin which is not effectively degraded by the proteasome and is associated with neurodegenerative disorders (By similarity). Involved in DNA repair via homologous recombination (HR) by mediating deubiquitination of RAD51 in response to DNA damage, promoting interaction between RAD51 and BRCA2 (PubMed:27941124). Deubiquitinates ENAC in apical compartments, thereby regulating apical membrane recycling (By similarity). Indirectly increases the phosphorylation of IGFIR, AKT and FOXO1 and promotes insulin-signaling and insulin-induced adipogenesis (By similarity). Required for stress-response retinal, skeletal muscle and germ cell maintenance (By similarity). May be involved in working memory (By similarity).

Cellular Location Cytoplasm.

Tissue Location Highly expressed in heart, skeletal muscle, and testis.

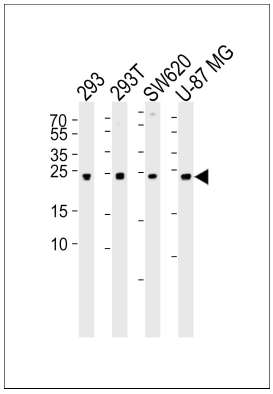
Background

Covalent attachment of the C-terminus of ubiquitin to cellular proteins plays a role in a variety of cellular processes. Ubiquitin C-terminal hydrolysis is catalyzed by deubiquitinating (DUB) enzymes and is necessary for several functions, including liberation of monomeric ubiquitin from the precursors encoded by ubiquitin genes and recycling of ubiquitin monomers. There are 2 distinct families of DUBs, ubiquitin-specific proteases (UBPs) and ubiquitin C-terminal hydrolases (UCHs). Mayer and Wilkinson (1989) identified 4 distinct UCH activities from bovine thymus. All 4 were thiol proteases and had high-affinity binding sites for ubiquitin. Wilkinson et al. (1989) purified the predominant isozyme, UCHL3, and raised antibodies against it. By screening a human B-cell expression library with the antibodies, the authors isolated cDNAs encoding human UCHL3. Sequence comparisons revealed that the sequence of the predicted 230-amino acid human UCHL3 protein is 54% identical to that of UCHL1.

References

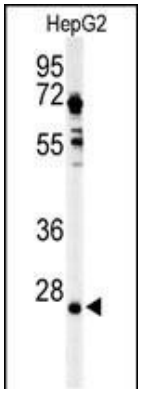
Saito, S., et al., J. Hum. Genet. 48(5):249-270 (2003). Wilkinson, K.D., et al., Science 246(4930):670-673 (1989).

Images

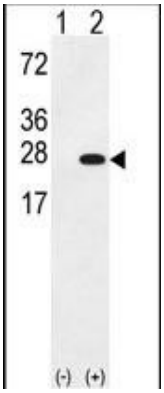


Western blot analysis of lysates from 293, 293T, SW620, U-87 MG cell line (from left to right), using UCHL3 Antibody (C209) (Cat. #AP2127B). AP2127B was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysates at 35ug per lane.

Western blot analysis of UCHL3 (Cat. #AP2127b) in HepG2



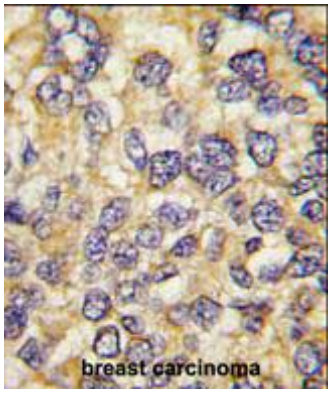
cell line lysates (35ug/lane). UCHL3 (arrow) was detected using the purified Pab.



Western blot analysis of his tag antibody in UCHL3 gene transfected 293 lysates (35ug/lane). His-tag UCHL3 protein (arrow) is detected.



Formalin-fixed and paraffin-embedded human skeletal muscle tissue reacted with UCHL3 Antibody (C-term)(Cat.#AP2127b), 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.



Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with UCHL3 antibody (C-term), 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.

Citations

- Ubiquitin C-terminal hydrolase-L1 protects cystic fibrosis transmembrane conductance regulator from early stages of proteasomal degradation.
- Role of UCH-L1/ubiquitin in acute testicular ischemia-reperfusion injury.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.