

UCHL1

Reactivity:Human Mouse Rat

Tested applications:WB IHC ICC IF IP

Recommended Dilution:WB 1:500 - 1:2000 IHC 1:50 - 1:200 ICC 1:50 - 1:200 IF 1:50 - 1:200
IP 1:20 - 1:100

Calculated MW:25kDa

Observed MW:Refer to Figures

Immunogen:

Recombinant protein of human UCHL1

Storage Buffer:

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Concentration:

i

Synonym:

PARK5; PGP9.5; Uch-L1;

Catalog #:A2131

Antibody Type:

Polyclonal Antibody

Species:Rabbit

Gene ID:7345

Isotype:IgG

Swiss Prot:P09936

Purity:Affinity purification

For research use only.

Background:

Protein ubiquitination and deubiquitination are reversible processes catalyzed by ubiquitinating enzymes (UBEs) and deubiquitinating enzymes (DUBs) (1,2). DUBs are categorized into 5 subfamilies: USP, UCH, OTU, MJD, and JAMM. UCHL1, UCHL3, UCHL5/UCH37, and BRCA-1-associated protein-1 (BAP1) belong to the UCH family of DUBs, which all possess a conserved catalytic domain (UCH domain) of about 230 amino acids. UCHL5 and BAP1 have unique extended C-terminal tails. UCHL1 is abundantly expressed in neuronal tissues and testes, while UCHL3 expression is more widely distributed (3,4). Although UCHL1 and UCHL3 are the most closely related UCH family members with about 53% identity, their biochemical properties differ in that UCHL1 binds monoubiquitin and UCHL3 shows dual specificity toward both ubiquitin (Ub) and NEDD8, a Ub-like molecule. In particular, UCHL3 functions as a Ub hydrolase involved in the processing of both Ub precursors and ubiquitinated substrates, generating free monomeric Ub. This is accomplished through the ability of UCHL3 to recognize and hydrolyze isopeptide bonds at the C-terminal glycine of either Ub or NEDD8 (5-7). Recent functional studies have identified UCH-L3 as a critical regulator of adipogenesis through its ability to promote IGF-IR and insulin receptor signaling (8). Furthermore, UCHL3 has been shown to promote deubiquitination, recycling, and cell surface expression of the epithelial sodium channel (9).

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