

UCH-L3 (ZE-17): sc-100340

BACKGROUND

UCH-L1 (ubiquitin C-terminal hydrolase) is a member of a gene family whose products hydrolyze small C-terminal adducts of ubiquitin to generate the ubiquitin monomer. Expression of UCH-L1 is highly specific to neurons and to cells of the diffuse neuroendocrine system and their tumors. UCH-L1 is expressed in brain neurons. Examination of specific brain regions reveals expression in all areas tested, particularly in the substantia nigra. UCH-L1 represents 1 to 2% of total soluble brain protein. Its occurrence in Lewy bodies and its function in the proteasome pathway make it a compelling candidate gene in Parkinson disease. The gene which encodes UCH-L1 maps to human chromosome 4p14. The 230 amino acid human UCH-L3 protein is 54% identical to that of UCH-L1. UCH-L3 is the predominant thiol protease and has high-affinity binding sites for ubiquitin.

REFERENCES

1. Doran, J.F., et al. 1983. Isolation of PGP 9.5, a new human neurone-specific protein detected by high resolution two-dimensional electrophoresis. *J. Neurochem.* 40: 1542-1547.
2. Wilkinson, K.D., et al. 1989. The neuron-specific protein PGP 9.5 is a ubiquitin carboxyl-terminal hydrolase. *Science* 246: 670-672.
3. Mayer, A.N. and Wilkinson, K.D. 1989. Detection, resolution and nomenclature of multiple ubiquitin carboxyl-terminal esterases from bovine calf thymus. *Biochemistry* 28: 166-172.

CHROMOSOMAL LOCATION

Genetic locus: UCHL3 (human) mapping to 13q22.2; Uchl3 (mouse) mapping to 14 E2.3.

SOURCE

UCH-L3 (ZE-17) is a mouse monoclonal antibody raised against recombinant UCH-L3 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

UCH-L3 (ZE-17) is recommended for detection of UCH-L3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for UCH-L3 siRNA (h): sc-42306, UCH-L3 siRNA (m): sc-42307, UCH-L3 shRNA Plasmid (h): sc-42306-SH, UCH-L3 shRNA Plasmid (m): sc-42307-SH, UCH-L3 shRNA (h) Lentiviral Particles: sc-42306-V and UCH-L3 shRNA (m) Lentiviral Particles: sc-42307-V.

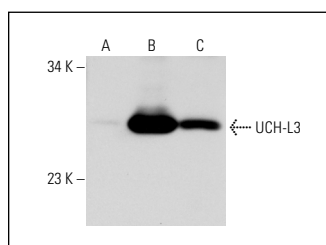
Molecular Weight of UCH-L3: 26 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or UCH-L3 (h): 293 Lysate: sc-113153.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



UCH-L3 (ZE-17): sc-100340. Western blot analysis of UCH-L3 expression in non-transfected 293: sc-110760 (A), human UCH-L3 transfected 293: sc-113153 (B) and K-562 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Succio, M., et al. 2015. Proteomic analysis reveals novel common genes modulated in both replicative and stress-induced senescence. *J. Proteomics* 128: 18-29.
2. McLellan, L., et al. 2016. Activity based profiling of deubiquitylating enzymes and inhibitors in animal tissues. *Methods Mol. Biol.* 1449: 411-419.
3. Caggiano, R., et al. 2017. miR-128 is implicated in stress responses by targeting MAFG in skeletal muscle cells. *Oxid. Med. Cell. Longev.* 2017: 9308310.
4. Long, C., et al. 2018. LPS promotes HB01 stability via USP25 to modulate inflammatory gene transcription in THP-1 cells. *Biochim. Biophys. Acta Gene Regul. Mech.* 1861: 773-782.
5. Goichon, A., et al. 2019. Colonic proteome signature in immunoproteasome-deficient stressed mice and its relevance for irritable Bowel syndrome. *J. Proteome Res.* 18: 478-492.
6. Panyain, N., et al. 2020. Discovery of a potent and selective covalent inhibitor and activity-based probe for the deubiquitylating enzyme UCH-L1, with antifibrotic activity. *J. Am. Chem. Soc.* 142: 12020-12026.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.