SANTA CRUZ BIOTECHNOLOGY, INC.

UCH-L3/4 (H-40): sc-25801

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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2. Wilkinson, K.D., Lee, K.M., Deshpande, S., Duerksen-Hughes, P., Boss, J.M. and Pohl, J. 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.
4. Edwards, Y.H., Fox, M.F., Povey, S., Hinks, L.J., Day, I.N.M. and Thompson, R.J. 1991. The gene for human neuron specific ubiquitin C-terminal hydrolase maps to chromosome 4p14. Cytogenet. Cell Genet. 58: 1886-1887.
5. Leroy, E., Boyer, R. and Polymeropoulos, M.H. 1998. Intron-exon structure of ubiquitin C-terminal hydrolase-L1. DNA Res. 5: 397-400.
6. Kwon J, Wang YL, Setsuie R, Sekiguchi S, Sakurai M, Sato Y, Lee WW, Ishii Y, Kyuwa S, Noda M, Wada K and Yoshikawa Y. 2004. Developmental regulation of ubiquitin C-terminal hydrolase isozyme expression during spermatogenesis in mice. Biol. Reprod. 71: 515-521.

CHROMOSOMAL LOCATION

Genetic locus: UCHL3 (human) mapping to 13q22.2; Uchl3 (mouse) mapping to 14 E2.3, Uchl4 (mouse) mapping to 9 C.

SOURCE

UCH-L3/4 (H-40) is a rabbit polyclonal antibody raised against amino acids 191-230 mapping at the C-terminus of UCH-L3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

UCH-L3/4 (H-40) is recommended for detection of UCH-L3 of mouse, rat, and human origin and UCH-L4 of mouse 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

UCH-L3/4 (H-40) is also recommended for detection of UCH-L3 in additional species, including equine, canine, bovine, porcine and avian.

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

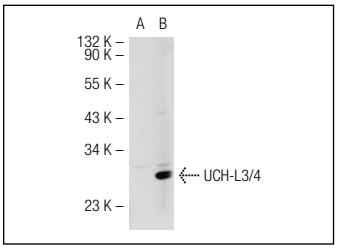
Molecular Weight of UCH-L3/4: 26 kDa.

Positive Controls: UCH-L3 (h): 293 Lysate: sc-113153.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



UCH-L3/4 (H-40): sc-25801. Western blot analysis of UCH-L3/4 expression in non-transfected: sc-110760 (**A**) and human UCH-L3/4 transfected: sc-113153 (**B**) 293 whole cell lysates.

RESEARCH USE

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