

# UCH-L5 (N-16): sc-83058

## BACKGROUND

As a component of the 19S regulatory complex of the 26S proteasome, UCH-L5 (ubiquitin carboxyl-terminal hydrolase isozyme L5), also known as UCH37, is a 329 amino acid protein that functions to edit polyubiquitinated protein substrates. Since UCH-L5 has the potential to rescue ubiquitinated proteins, including oncogenic proteins, from proteasomal degradation, it is likely that deregulation of UCH-L5 may affect tumor growth. Through associations with Smad7, UCH-L5 can dramatically upregulate TGF $\beta$ -dependent gene expression by deubiquitinating and stabilizing TGF $\beta$  RI. Also, since overexpression of UCH-L5 and other deubiquitinating enzymes has been observed in many cancer cell lines, inhibition of these proteins may be of some interest in designing therapies for cancer treatment. There are four isoforms of UCH-L5 that exist as a result of alternative splicing events.

## REFERENCES

- Lai, C.H., Chou, C.Y., Ch'ang, L.Y., Liu, C.S. and Lin, W. 2000. Identification of novel human genes evolutionarily conserved in *Caenorhabditis elegans* by comparative proteomics. *Genome Res.* 10: 703-713.
- Wicks, S.J., Grocott, T., Haros, K., Maillard, M., ten Dijke, P. and Chantry, A. 2006. Reversible ubiquitination regulates the Smad/TGF $\beta$  signalling pathway. *Biochem. Soc. Trans.* 34: 761-763.
- Hamazaki, J., Iemura, S., Natsume, T., Yashiroda, H., Tanaka, K. and Murata, S. 2006. A novel proteasome interacting protein recruits the deubiquitinating enzyme UCH37 to 26S proteasomes. *EMBO J.* 25: 4524-4536.
- Qiu, X.B., Ouyang, S.Y., Li, C.J., Miao, S., Wang, L. and Goldberg, A.L. 2006. hRpn13/ADRM1/GP110 is a novel proteasome subunit that binds the deubiquitinating enzyme, UCH37. *EMBO J.* 25: 5742-5753.
- Yao, T., Song, L., Xu, W., DeMartino, G.N., Florens, L., Swanson, S.K., Washburn, M.P., Conaway, R.C., Conaway, J.W. and Cohen, R.E. 2006. Proteasome recruitment and activation of the UCH37 deubiquitinating enzyme by Adrm1. *Nat. Cell Biol.* 8: 994-1002.
- Horton, R.A., Strachan, E.A., Vogel, K.W. and Riddle, S.M. 2007. A substrate for deubiquitinating enzymes based on time-resolved fluorescence resonance energy transfer between terbium and yellow fluorescent protein. *Anal. Biochem.* 360: 138-143.
- Liu, C.H., Goldberg, A.L. and Qiu, X.B. 2007. New insights into the role of the ubiquitin-proteasome pathway in the regulation of apoptosis. *Chang Gung Med. J.* 30: 469-479.

## CHROMOSOMAL LOCATION

Genetic locus: UCHL5 (human) mapping to 1q31.2; Uchl5 (mouse) mapping to 1 F.

## SOURCE

UCH-L5 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of UCH-L5 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-83058 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

UCH-L5 (N-16) is recommended for detection of UCH-L5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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); non cross-reactive with family members UCH-L1 or UCH-L3.

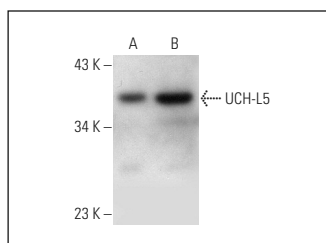
UCH-L5 (N-16) is also recommended for detection of UCH-L5 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for UCH-L5 siRNA (h): sc-76797, UCH-L5 siRNA (m): sc-76798, UCH-L5 shRNA Plasmid (h): sc-76797-SH, UCH-L5 shRNA Plasmid (m): sc-76798-SH, UCH-L5 shRNA (h) Lentiviral Particles: sc-76797-V and UCH-L5 shRNA (m) Lentiviral Particles: sc-76798-V.

Molecular Weight of UCH-L5: 38 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, U-87 MG cell lysate: sc-2411 or mouse brain extract: sc-2253.

## DATA



UCH-L5 (N-16): sc-83058. Western blot analysis of UCH-L5 expression in IMR-32 (A) and U-87 MG (B) whole cell lysates.

## STORAGE

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


 MONOS  
 Satisfaction  
 Guaranteed

Try **UCH-L5 (C-4): sc-271002**, our highly recommended monoclonal alternative to UCH-L5 (N-16).