

HOTTL (H-124): sc-68362

BACKGROUND

HOTTL (tubulin-tyrosine ligase-like protein 3) is a 352 amino acid protein encoded by the human gene TTL3. HOTTL is believed to be part of the tubulin-tyrosine ligase family and contains one TTL domain. The TTL domain is an approximately 350 amino acid module present in a family of eukaryotic proteins that could catalyze ligations of diverse amino acids to tubulins or other substrates. The TTL domain contains ATP-grasp-like motifs that correspond to the ATP/Mg²⁺ binding site typical of enzymes with ATP-dependent carboxylate-amine/thiol ligase activity. Subject to several posttranslational modifications, assembled microtubules are detyrosinated over time at the C-terminus of α -tubulin. After microtubular disassembly TTL proteins restore tyrosine residues back to the detyrosinated Tubulin leading to a cycle of detyrosination/tyrosination. HOTTL also may play a role in tumor cell regulation.

REFERENCES

- Galperin, M.Y. and Koonin, E.V. 1998. A diverse superfamily of enzymes with ATP-dependent carboxylate-amine/thiol ligase activity. *Protein Sci.* 6: 2639-2643.
- Regnard, C., Audebert, S., Denoulet, P. and Eddé, B. 1998. Tubulin polyglutamylase: partial purification and enzymatic properties. *Biochemistry* 37: 8395-8404.
- Janke, C., Rogowski, K., Wloga, D., Regnard, C., Kajava, A.V., Strub, J.M., Temurak, N., van Dijk, J., Boucher, D., van Dorsselaer, A., Suryavanshi, S., Gaertig, J. and Eddé, B. 2005. Tubulin polyglutamylase enzymes are members of the TTL domain protein family. *Science* 308: 1758-1762.
- Sjöblom, T., Jones, S., Wood, L.D., Parsons, D.W., Lin, J., Barber, T.D., Mandelker, D., Leary, R.J., Ptak, J., Silliman, N., Szabo, S., Buckhaults, P., Farrell, C., Meeh, P., Markowitz, S.D., Willis, J., Dawson, D., Willson, J.K., et al. 2006. The consensus coding sequences of human breast and colorectal cancers. *Science* 314: 268-274.
- Sweet, T.J., Boyer, B., Hu, W., Baker, K.E. and Collier, J. 2007. Microtubule disruption stimulates P-body formation. *RNA* 13: 493-502.
- van Dijk, J., Rogowski, K., Miro, J., Lacroix, B., Eddé, B. and Janke, C. 2007. A targeted multienzyme mechanism for selective microtubule polyglutamylation. *Mol. Cell* 26: 437-448.
- LocusLink Report (LocusID: 26140). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: TTL3 (human) mapping to 3p25.3; Ttl3 (mouse) mapping to 6 E3.

SOURCE

HOTTL (H-124) is a rabbit polyclonal antibody raised against amino acids 1-124 mapping at the N-terminus of HOTTL of human origin.

PRODUCT

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

APPLICATIONS

HOTTL (H-124) is recommended for detection of HOTTL of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

HOTTL (H-124) is also recommended for detection of HOTTL in additional species, including equine, canine and porcine.

Suitable for use as control antibody for HOTTL siRNA (h): sc-62474, HOTTL siRNA (m): sc-62475, HOTTL shRNA Plasmid (h): sc-62474-SH, HOTTL shRNA Plasmid (m): sc-62475-SH, HOTTL shRNA (h) Lentiviral Particles: sc-62474-V and HOTTL shRNA (m) Lentiviral Particles: sc-62475-V.

Molecular Weight of HOTTL: 40 kDa.

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.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.