

TTLL4 (S-14): sc-169734

BACKGROUND

A large protein group known as the tubulin tyrosine ligase-like family (TTL) is implied to catalyze ligations of amino acids to tubulins and other substrates. Each member contains a characteristic TTL domain. TTLL4 (tubulin tyrosine ligase-like family, member 4) is a 1,199 amino acid protein that belongs to the TTL family and contains one TTL domain. Localizing to the cilia and basal bodies, TTLL4 is a polyglutamylase that has been identified to preferentially modify nucleosome assembly protein 1 (NAP1) and 2 (NAP2). TTLL4 may also play a role in the polyglutamylation of PELP1 (proline-, glutamic acid- and leucine-rich protein 1), involved in several signaling pathways, including interactions with histone H3. The gene encoding TTLL4 maps to human chromosome 2q35 and mouse chromosome 1 C3.

REFERENCES

1. 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 Edde, B. 2005. Tubulin polyglutamylase enzymes are members of the TTL domain protein family. *Science* 308: 1758-1762.
2. van Dijk, J., Miro, J., Strub, J.M., Lacroix, B., van Dorsselaer, A., Edde, B. and Janke, C. 2008. Polyglutamylation is a post-translational modification with a broad range of substrates. *J. Biol. Chem.* 283: 3915-3922.
3. Kashiwaya, K., Nakagawa, H., Hosokawa, M., Mochizuki, Y., Ueda, K., Piao, L., Chung, S., Hamamoto, R., Eguchi, H., Ohgashi, H., Ishikawa, O., Janke, C., Shinomura, Y. and Nakamura, Y. 2010. Involvement of the tubulin tyrosine ligase-like family member 4 polyglutamylase in PELP1 polyglutamylation and chromatin remodeling in pancreatic cancer cells. *Cancer Res.* 70: 4024-4033.
4. Suryavanshi, S., Edde, B., Fox, L.A., Guerrero, S., Hard, R., Hennessey, T., Kabi, A., Malison, D., Pennock, D., Sale, W.S., Wloga, D. and Gaertig, J. 2010. Tubulin glutamylation regulates ciliary motility by altering inner dynein arm activity. *Curr. Biol.* 20: 435-440.
5. Pathak, N., Austin, C.A. and Drummond, I.A. 2011. Tubulin tyrosine ligase-like genes *tll3* and *tll6* maintain zebrafish cilia structure and motility. *J. Biol. Chem.* 286: 11685-11695.

CHROMOSOMAL LOCATION

Genetic locus: TTLL4 (human) mapping to 2q35; Tll4 (mouse) mapping to 1 C3.

SOURCE

TTLL4 (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of TTLL4 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.

Blocking peptide available for competition studies, sc-169734 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TTLL4 (S-14) is recommended for detection of TTLL4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 other TTL family members.

Suitable for use as control antibody for TTLL4 siRNA (h): sc-94714, TTLL4 siRNA (m): sc-154792, TTLL4 shRNA Plasmid (h): sc-94714-SH, TTLL4 shRNA Plasmid (m): sc-154792-SH, TTLL4 shRNA (h) Lentiviral Particles: sc-94714-V and TTLL4 shRNA (m) Lentiviral Particles: sc-154792-V.

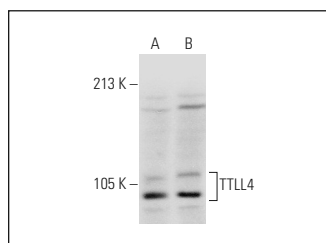
Molecular Weight of TTLL4: 133 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



TTLL4 (S-14): sc-169734. Western blot analysis of TTLL4 expression in Jurkat (A) and K-562 (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.

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.