SANTA CRUZ BIOTECHNOLOGY, INC.

TTLL10 (P-16): sc-162361

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

A large protein group known as the tubulin tyrosine ligase-like family (TTLL) family is implied to catalyze ligations of amino acids to tubulins and other substrates. Each member contains a characteristic TTL domain. TTLL10 (tubulin tyrosine ligase-like family, member 10), also known as inactive polyglycylase TTLL10 or TTLL5, is a 673 amino acid inactive polyglycylase that has been identified as a polyglycylase for nucleosome assembly protein 1 (NAP1). Acting in a TTLL8-dependent manner, TTLL10 strongly glycates tubulin and various unidentified acidic proteins. As a result of alternative splicing events, three isoforms of TTLL10 exist. TTLL10 contains one TTL domain and is encoded by a gene mapping to human chromosome 1, which is the largest human chromosome. Chromosome 1 spans about 260 million base pairs, makes up 8% of the human genome and contains approximately 3,000 genes. A large number of diseases and disorders are associated with chromosome 1 including Hutchinson-Gilford progeria, Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome.

REFERENCES

1. Kimberling, W.J., et al. 2000. Genetic heterogeneity of Usher syndrome. Adv. Otorhinolaryngol. 56: 11-18.
2. LaMarca, M.E., et al. 2004. A novel alteration in metaxin 1, F202L, is associated with N370S in Gaucher disease. J. Hum. Genet. 49: 220-222.
3. Janke, C., et al. 2005. Tubulin polyglutamylase enzymes are members of the TTL domain protein family. Science 308: 1758-1762.
4. Ikegami, K., et al. 2008. TTLL10 is a protein polyglycylase that can modify nucleosome assembly protein 1. FEBS Lett. 582: 1129-1134.
5. Betarbet, R., et al. 2008. Fas-associated factor 1 and Parkinson's disease. Neurobiol. Dis. 31: 309-315.
6. Rogowski, K., et al. 2009. Evolutionary divergence of enzymatic mechanisms for posttranslational polyglycylation. Cell 137: 1076-1087.
7. Ikegami, K., et al. 2009. TTLL10 can perform tubulin glycylation when co-expressed with TTLL8. FEBS Lett. 583: 1957-1963.
8. Yokoi, T., et al. 2009. Analysis of the vitreous membrane in a case of type 1 Stickler syndrome. Graefes Arch. Clin. Exp. Ophthalmol. 247: 715-718.
9. Decker, M.L., et al. 2009. Telomere length in Hutchinson-Gilford progeria syndrome. Mech. Ageing Dev. 130: 377-383.

CHROMOSOMAL LOCATION

Genetic locus: Ttll10 (mouse) mapping to 4 E2.

SOURCE

TTLL10 (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of TTLL10 of mouse origin.

STORAGE

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

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-162361 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

TTLL10 (P-16) is recommended for detection of TTLL10 of mouse and rat 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 TTLL family members.

Suitable for use as control antibody for TTLL10 siRNA (m): sc-154787, TTLL10 shRNA Plasmid (m): sc-154787-SH and TTLL10 shRNA (m) Lentiviral Particles: sc-154787-V.

Molecular Weight of TTLL10: 75 kDa.

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.

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.