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SANTA CRUZ BIOTECHNOLOGY, INC.

TTLL10 siRNA (m): sc-154787

BACKGROUND

A large protein group known as the tubulin tyrosine ligase-like family (TTLL) 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.

CHROMOSOMAL LOCATION

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

PRODUCT

TTLL10 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TTLL10 shRNA Plasmid (m): sc-154787-SH and TTLL10 shRNA (m) Lentiviral Particles: sc-154787-V as alternate gene silencing products.

For independent verification of TTLL10 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-154787A, sc-154787B and sc-154787C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TTLL10 siRNA (m) is recommended for the inhibition of TTLL10 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TTLL10 gene expression knockdown using RT-PCR Primer: TTLL10 (m)-PR: sc-154787-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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