SANTA CRUZ BIOTECHNOLOGY, INC.

TTLL4 siRNA (h): sc-94714

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. TTLL4 (Tubulin tyrosine ligase-like family, member 4) is a 1,199 amino acid protein that belongs to the TTLL 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., et al. 2005. Tubulin polyglutamylase enzymes are members of the TTL domain protein family. Science 308: 1758-1762.
2. van Dijk, J., et al. 2008. Polyglutamylation is a post-translational modification with a broad range of substrates. J. Biol. Chem. 283: 3915-3922.
3. Kashiwaya, K., et al. 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., et al. 2010. Tubulin glutamylation regulates ciliary motility by altering inner dynein arm activity. Curr. Biol. 20: 435-440.
5. Pathak, N., et al. 2011. Tubulin tyrosine ligase-like genes ttll3 and ttll6 maintain zebrafish cilia structure and motility. J. Biol. Chem. 286: 11685-11695.

CHROMOSOMAL LOCATION

Genetic locus: TTLL4 (human) mapping to 2q35.

PRODUCT

TTLL4 siRNA (h) 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 TTLL4 shRNA Plasmid (h): sc-94714-SH and TTLL4 shRNA (h) Lentiviral Particles: sc-94714-V as alternate gene silencing products.

For independent verification of TTLL4 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-94714A, sc-94714B and sc-94714C.

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

TTLL4 siRNA (h) is recommended for the inhibition of TTLL4 expression in human 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 TTLL4 gene expression knockdown using RT-PCR Primer: TTLL4 (h)-PR: sc-94714-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.

PROTOCOLS

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