

TTLL1 siRNA (h): sc-76772

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. TTLL1 (tubulin tyrosine ligase-like family, member 1), also known as tubulin polyglutamylase complex subunit 3, PGs3 or C22orf7, is a 423 amino acid catalytic subunit of the neuronal tubulin polyglutamylase complex and a member of the tubulin polyglutamylase family. Localized to cytoskeleton and cytosol, TTLL1 is widely expressed with highest levels found in brain, testis and heart. TTLL1 generates glutamate side chains on C-terminal regions of α - and β -Tubulin and contains one TTL domain. Four TTLL1 isoforms are known to exist as a result of alternative splicing events. The gene encoding TTLL1 maps to human chromosome 22, which houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, neurofibromatosis type 2, autism and schizophrenia.

REFERENCES

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3. Janke, C., et al. 2005. Tubulin polyglutamylase enzymes are members of the TTL domain protein family. *Science* 308: 1758-1762.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 608955. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Gothelf, D., et al. 2008. Genes, brain development and psychiatric phenotypes in velo-cardio-facial syndrome. *Dev. Disabil. Res. Rev.* 14: 59-68.
6. Sathyamoorthi, S., et al. 2009. Array analysis and molecular studies of INI1 in an infant with deletion 22q13 (Phelan-McDermid syndrome) and atypical teratoid/rhabdoid tumor. *Am. J. Med. Genet. A* 149A: 1067-1069.

CHROMOSOMAL LOCATION

Genetic locus: TTLL1 (human) mapping to 22q13.2.

PRODUCT

TTLL1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TTLL1 shRNA Plasmid (h): sc-76772-SH and TTLL1 shRNA (h) Lentiviral Particles: sc-76772-V as alternate gene silencing products.

For independent verification of TTLL1 (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-76772A, sc-76772B and sc-76772C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TTLL1 siRNA (h) is recommended for the inhibition of TTLL1 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 μ M in 66 μ l. 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 TTLL1 gene expression knockdown using RT-PCR Primer: TTLL1 (h)-PR: sc-76772-PR (20 μ l). 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.