

TTLL13 siRNA (m): sc-154790

BACKGROUND

A large protein group known as the Tubulin tyrosine ligase-like (TTLL) family is implied to catalyze ligations of amino acids to Tubulins and other substrates. Each member contains a characteristic TTL domain. TTLL13 (Tubulin tyrosine ligase-like family, member 13) is a 815 amino acid protein that belongs to the Tubulin—tyrosine ligase family. Containing one TTL domain, TTLL13 may act as a Tubulin polyglutamylase that forms polyglutamate side chains on Tubulin. TTLL13 exists as two alternatively spliced isoforms and is encoded by a gene located on human chromosome 15q26.1. Encoding more than 700 genes, chromosome 15 is made up of approximately 106 million base pairs and is about 3% of the human genome.

REFERENCES

1. Trichet, V., Ruault, M., Roizès, G. and De Sario, A. 2000. Characterization of the human Tubulin tyrosine ligase-like 1 gene (TTLL1) mapping to 22q13.1. *Gene* 257: 109-117.
2. 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.
3. Wloga, D., Rogowski, K., Sharma, N., Van Dijk, J., Janke, C., Edde, B., Bre, M.H., Levilliers, N., Redeker, V., Duan, J., Gorovsky, M.A., Jerka-Dziadosz, M. and Gaertig, J. 2008. Glutamylation on α -Tubulin is not essential but affects the assembly and functions of a subset of microtubules in *Tetrahymena thermophila*. *Eukaryotic Cell* 7: 1362-1372.
4. Ikegami, K., Horigome, D., Mukai, M., Livnat, I., MacGregor, G.R. and Setou, M. 2008. TTLL10 is a protein polyglycylase that can modify nucleosome assembly protein 1. *FEBS Lett.* 582: 1129-1134.
5. Ikegami, K. and Setou, M. 2009. TTLL10 can perform Tubulin glycylation when co-expressed with TTLL8. *FEBS Lett.* 583: 1957-1963.
6. Kubo, T., Yanagisawa, H.A., Yagi, T., Hirono, M. and Kamiya, R. 2010. Tubulin polyglutamylation regulates axonemal motility by modulating activities of inner-arm dyneins. *Curr. Biol.* 20: 441-445.
7. Wasylyk, C., Zambrano, A., Zhao, C., Brants, J., Abecassis, J., Schalken, J.A., Rogatsch, H., Schaefer, G., Pycha, A., Klocker, H. and Wasylyk, B. 2010. Tubulin tyrosine ligase like 12, link to prostate cancer through Tubulin post-translational modification and chromosome ploidy. *Int. J. Cancer* 127: 2542-2553.

CHROMOSOMAL LOCATION

Genetic locus: Ttll13 (mouse) mapping to 7 D3.

PRODUCT

TTLL13 siRNA (m) is a target-specific 19-25 nt siRNA 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 TTLL13 shRNA Plasmid (m): sc-154790-SH and TTLL13 shRNA (m) Lentiviral Particles: sc-154790-V as alternate gene silencing 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 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

TTLL13 siRNA (m) is recommended for the inhibition of TTLL13 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 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 TTLL13 gene expression knockdown using RT-PCR Primer: TTLL13 (m)-PR: sc-154790-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.