

TTC37 siRNA (m): sc-154774

BACKGROUND

TTC37 (tetratricopeptide repeat protein 37), also known as Thespin, is a 1,564 amino acid protein that contains 20 tetratricopeptide (TPR) repeats. TPR repeat-containing motifs are found in a variety of proteins and may mediate protein-protein interactions and chaperone activity. Although not expressed in liver, TTC37 is a widely expressed protein with highest levels of expression in vascular tissues, lymph node, pituitary, lung and intestine. The gene that encodes TTC37 consists of more than 91,000 bases and maps to human chromosome 5q15. Defects in TTC37 are associated with Tricho-Hepato-Enteric (THE) syndrome. THE syndrome is a rare and severe autosomal recessive condition characterized by intractable diarrhea with facial dysmorphism, intrauterine growth retardation immunodeficiency with low serum concentrations of immunoglobulins and hair abnormalities known as woolly hair.

REFERENCES

1. Edwards, S.J., et al. 1997. The mutational spectrum in Treacher Collins syndrome reveals a predominance of mutations that create a premature-termination codon. *Am. J. Hum. Genet.* 60: 515-524.
2. McDaniel, L.D., et al. 1997. Confirmation of homozygosity for a single nucleotide substitution mutation in a Cockayne syndrome patient using monoallelic mutation analysis in somatic cell hybrids. *Hum. Mutat.* 10: 317-321.
3. Finch, R., et al. 2005. Familial adenomatous polyposis and mental retardation caused by a *de novo* chromosomal deletion at 5q15-q22: report of a case. *Dis. Colon Rectum.* 48: 2148-2152.
4. Anindya, R., et al. 2007. Damage-induced ubiquitylation of human RNA polymerase II by the ubiquitin ligase Nedd4, but not Cockayne syndrome proteins or BRCA1. *Mol. Cell* 28: 386-397.
5. Vera-Carbonell, A., et al. 2009. Characterization of a *de novo* complex chromosomal rearrangement in a patient with Cri-du-chat and trisomy 5p syndromes. *Am. J. Med. Genet. A* 149A: 2513-2521.
6. Ravandi, F., et al. 2009. Superior outcome with hypomethylating therapy in patients with acute myeloid leukemia and high-risk myelodysplastic syndrome and chromosome 5 and 7 abnormalities. *Cancer* 115: 5746-5751.
7. Sazawal, S., et al. 2009. Haematological & molecular profile of acute myelogenous leukaemia in India. *Indian J. Med. Res.* 129: 256-261.
8. Hartley, J.L., et al. 2010. Mutations in TTC37 cause trichhepatoenteric syndrome (phenotypic diarrhea of infancy). *Gastroenterology* 138: 2388-2398.
9. Fabre, A., et al. 2011. Novel mutations in TTC37 associated with trichhepato-enteric syndrome. *Hum. Mutat.* 32: 277-281.

CHROMOSOMAL LOCATION

Genetic locus: Ttc37 (mouse) mapping to 13 C1.

PROTOCOLS

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

PRODUCT

TTC37 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TTC37 shRNA Plasmid (m): sc-154774-SH and TTC37 shRNA (m) Lentiviral Particles: sc-154774-V as alternate gene silencing products.

For independent verification of TTC37 (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-154774A, sc-154774B and sc-154774C.

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

TTC37 siRNA (m) is recommended for the inhibition of TTC37 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 TTC37 gene expression knockdown using RT-PCR Primer: TTC37 (m)-PR: sc-154774-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.