SANTA CRUZ BIOTECHNOLOGY, INC.

Treacle siRNA (m): sc-61708

BACKGROUND

Treacle is a serine/alanine-rich 1,411 amino acid nuclear phosphoprotein that interacts with upstream binding factor (UBF) and affects transcription of the ribosomal DNA gene. Treacle is also involved in early embryonic development, particularly in the craniofacial complex, and may play a role in nucleolar-cytoplasmic transport. The Treacle protein contains three domains with unique N- and C-termini and a large central repeat domain. Mutations in TCOF1, the gene that encodes for Treacle, cause Treacher Collins-Franceschetti syndrome (TCS), a disorder characterized by defects in craniofacial development. Symptoms of TCS include conductive hearing loss, hypoplasia of the mandible and maxilla, downward sloping palpebral fissures and cleft palate.

REFERENCES

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2. Thiel, C.T., et al. 2005. Exclusion of TCOF1 mutations in a case of bilateral Goldenhar syndrome and one familial case of microtia with meatal atresia. Clin. Dysmorphol. 14: 67-71.
3. Splendore, A., et al. 2005. TCOF1 mutation database: novel mutation in the alternatively spliced exon 6A and update in mutation nomenclature. Hum. Mutat. 25: 429-434.
4. Knutson, M.D., et al. 2005. Iron release from macrophages after erythrophagocytosis is upregulated by ferroportin 1 overexpression and downregulated by hepcidin. Proc. Natl. Acad. Sci. USA 102: 1324-1328.
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6. Masotti, C., et al. 2005. A functional SNP in the promoter region of TCOF1 is associated with reduced gene expression and YY1 DNA-protein interaction. Gene 359: 44-52.
7. Gonzales, B., et al. 2005. Cloning and functional characterization of the *Xenopus* orthologue of the Treacher Collins syndrome (TCOF1) gene product. Gene 359: 73-80.
8. Shows, K.H., et al. 2006. Reduced TCOF1 mRNA level in a rhesus macaque with Treacher Collins-like syndrome: further evidence for haploinsufficiency of treacle as the cause of disease. Mamm. Genome 17: 168-177.
9. Dixon, J., et al. 2006. Tcof1/Treacle is required for neural crest cell formation and proliferation deficiencies that cause craniofacial abnormalities. Proc. Natl. Acad. Sci. USA 103: 13403-13408.

CHROMOSOMAL LOCATION

Genetic locus: Tcof1 (mouse) mapping to 18 E1.

PROTOCOLS

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

PRODUCT

Treacle 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 Treacle shRNA Plasmid (m): sc-61708-SH and Treacle shRNA (m) Lentiviral Particles: sc-61708-V as alternate gene silencing products.

For independent verification of Treacle (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-61708A, sc-61708B and sc-61708C.

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

Treacle siRNA (m) is recommended for the inhibition of Treacle 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 Treacle gene expression knockdown using RT-PCR Primer: Treacle (m)-PR: sc-61708-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.