SANTA CRUZ BIOTECHNOLOGY, INC.

TRPS1 siRNA (h): sc-106642

BACKGROUND

The autosomal dominant tricho-rhino-phalangeal syndrome type 1 (TRPS1) is a rare disorder clinically characterized by sparse scalp hair, a bulbous nose, protruding ears, a thin upper lip, an elongated philtrum and bone deformities. The human TRPS1 gene maps to chromosome 8q23.3 and encodes a GATA-type zinc-finger protein. TRPS1 binds GATA sequences but does not activate GATA-dependent transcription. In fact, TRPS1 represses transcriptional activation mediated by other GATA factors. The noncompetitive mechanism for transcriptional repression depends upon an Ikaros-like C-terminal region. In mice, mutations in the GATA domain of TRPS1 cause facial abnormalities that parallel TRPS1 symptoms. TRPS1 is expressed during mouse embryonic development in developing joints, hair follicles, snout, lung, spine and brain.

REFERENCES

1. Hansen, D.D., et al. 1979. Tricho-rhino-phalangeal syndrome. Int. J. Dermatol. 18: 561-564.
2. Momeni, P., et al. 2000. Mutations in a new gene, encoding a zinc-finger protein, cause tricho-rhino-phalangeal syndrome type I. Nat. Genet. 24: 71-74.
3. Malik, T.H., et al. 2001. Transcriptional repression and developmental functions of the atypical vertebrate GATA protein TRPS1. EMBO J. 20: 1715-1725.
4. Malik, T.H., et al. 2002. Deletion of the GATA domain of TRPS1 causes an absence of facial hair and provides new insights into the bone disorder in inherited tricho-rhino-phalangeal syndromes. Mol. Cell. Biol. 22: 8592-8600.
5. Kunath, M., et al. 2002. Expression of TRPS1 during mouse embryonic development. Gene Expr. Patterns 2: 119-122.
6. Kaiser, F.J., et al. 2003. Nuclear interaction of the dynein light chain LC8a with the TRPS1 transcription factor suppresses the transcriptional repression activity of TRPS1. Hum. Mol. Genet. 12: 1349-1358.

CHROMOSOMAL LOCATION

Genetic locus: TRPS1 (human) mapping to 8q23.3.

PRODUCT

TRPS1 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 TRPS1 shRNA Plasmid (h): sc-106642-SH and TRPS1 shRNA (h) Lentiviral Particles: sc-106642-V as alternate gene silencing products.

For independent verification of TRPS1 (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-106642A, sc-106642B and sc-106642C.

PROTOCOLS

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

TRPS1 siRNA (h) is recommended for the inhibition of TRPS1 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 TRPS1 gene expression knockdown using RT-PCR Primer: TRPS1 (h)-PR: sc-106642-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhe, C., et al. 2015. Trps1 regulates biliary epithelial-mesenchymal transition and has roles during biliary fibrosis in liver grafts: a preliminary study. PLoS ONE 10: e0123233.

RESEARCH USE

For research use only, not for use in diagnostic procedures.