SANTA CRUZ BIOTECHNOLOGY, INC.

SOLO siRNA (h): sc-94754

BACKGROUND

SOLO, also known as SESTD1 (SEC14 and spectrin domains 1), is a 696 amino acid protein that belongs to the SOLO family. Containing three spectrin repeats and a CRAL-TRIO domain, SOLO is broadly expressed with high expression in thalamus and brain, and significantly expressed in vasculature. SOLO is suggested to act as a primary docking protein, directing membrane turnover and assembly of the transient receptor potential channels TRPC4 (transient receptor potential 4) and TRPC5 (transient receptor potential 5). SOLO may be involved in the plasma membrane localization of β-catenin. SOLO is encoded by a gene located on human chromosome 2q31.2. Chromosome 2 consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome.

REFERENCES

1. IJdo, J.W., et al. 1991. Origin of human chromosome 2: an ancestral telomere-telomere fusion. Proc. Natl. Acad. Sci. USA 88: 9051-9055.
2. Plant, T.D., et al. 2003. TRPC4 and TRPC5: receptor-operated Ca^{2+}-permeable nonselective cation channels. Cell Calcium 33: 441-450.
3. Stamboulian, S., et al. 2005. Junctate, an inositol 1,4,5-triphosphate receptor associated protein, is present in rodent sperm and binds TRPC2 and TRPC5 but not TRPC1 channels. Dev. Biol. 286: 326-337.
4. Hillier, L.W., et al. 2005. Generation and annotation of the DNA sequences of human chromosomes 2 and 4. Nature 434: 724-731.
5. Baye, T.M., et al. 2009. Genomic and geographic distribution of private SNPs and pathways in human populations. Per. Med. 6: 623-641.
6. Miehe, S., et al. 2010. The phospholipid-binding protein SESTD1 is a novel regulator of the transient receptor potential channels TRPC4 and TRPC5. J. Biol. Chem. 285: 12426-12434.
7. Beech, D.J. 2012. Integration of transient receptor potential canonical channels with lipids. Acta Physiol. 204: 227-237.

CHROMOSOMAL LOCATION

Genetic locus: SESTD1 (human) mapping to 2q31.2.

PRODUCT

SOLO 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 SOLO shRNA Plasmid (h): sc-94754-SH and SOLO shRNA (h) Lentiviral Particles: sc-94754-V as alternate gene silencing products.

For independent verification of SOLO (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-94754A, sc-94754B and sc-94754C.

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

SOLO siRNA (h) is recommended for the inhibition of SOLO 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 SOLO gene expression knockdown using RT-PCR Primer: SOLO (h)-PR: sc-94754-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.