SANTA CRUZ BIOTECHNOLOGY, INC.

TSNAXIP1 siRNA (h): sc-93031

BACKGROUND

TSNAXIP1 (translin-associated factor X-interacting protein 1) is a 658 amino acid gene product believed to interact with TSNAX (translin-associated factor X). TSNAX, a translin family protein, is often found as a sumoylated perinuclear association factor. The TSNAX gene is located immediately upstream of DISC1 (Disrupted-in-Schizophrenia-1) and together are candidate genes in relation to psychiatric illness, as one transcript variation may result from intergenic splicing to encode a novel TSNAX-DISC1 fusion protein. The gene encoding TSNAXIP1 is located on chromosome 16q22.1 which encodes over 900 genes in approximately 90 million base pairs, makes up nearly 3% of human cellular DNA and is associated with a variety of genetic disorders. The GAN gene is located on chromosome 16 and, with mutation, may lead to giant axonal neuropathy, a nervous system disorder characterized by increasing malfunction with growth. The rare disorder Rubinstein-Taybi syndrome is also associated with chromosome 16, though through the CREBBP gene which encodes a critical CREB binding protein.

REFERENCES

1. Williams, J.M., et al. 2009. A 1q42 deletion involving DISC1, DISC2, and TSNAX in an autism spectrum disorder. Am. J. Med. Genet. A 149A: 1758-1762.
2. Lluis, M., et al. 2010. Analysis of nucleic acid binding by a recombinant translin-trax complex. Biochem. Biophys. Res. Commun. 396: 709-713.
3. Jaendling, A. and McFarlane, R.J. 2010. Biological roles of translin and translin-associated factor-X: RNA metabolism comes to the fore. Biochem. J. 429: 225-234.
4. Schosser, A., et al. 2010. Association of DISC1 and TSNAX genes and affective disorders in the depression case-control (DeCC) and bipolar affective case-control (BACCS) studies. Mol. Psychiatry 15: 844-849.
5. Okuda, A., et al. 2010. Translin-associated factor X gene (TSNAX) may be associated with female major depressive disorder in the Japanese population. Neuromolecular Med. 12: 78-85.
6. Aisiku, O.R., et al. 2010. Identification of a novel binding partner of phospholipase cβ1: translin-associated factor X. PLoS ONE 5: e15001.

CHROMOSOMAL LOCATION

Genetic locus: TSNAXIP1 (human) mapping to 16q22.1.

PRODUCT

TSNAXIP1 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 TSNAXIP1 shRNA Plasmid (h): sc-93031-SH and TSNAXIP1 shRNA (h) Lentiviral Particles: sc-93031-V as alternate gene silencing products.

For independent verification of TSNAXIP1 (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-93031A, sc-93031B and sc-93031C.

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

TSNAXIP1 siRNA (h) is recommended for the inhibition of TSNAXIP1 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.

GENE EXPRESSION MONITORING

TSNAXIP1 (C-2): sc-390521 is recommended as a control antibody for monitoring of TSNAXIP1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TSNAXIP1 gene expression knockdown using RT-PCR Primer: TSNAXIP1 (h)-PR: sc-93031-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.

PROTOCOLS

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