SANTA CRUZ BIOTECHNOLOGY, INC.

STON2 siRNA (h): sc-92095

BACKGROUND

STON2 (stonin 2), also known as STN2, STNB or STNB2, is a 905 amino acid protein that localizes to both the cytoplasm and the membrane and contains one stonin homology domain and one μ homology domain. Expressed ubiquitously, STON2 interacts with Synaptotagmin I and Synaptotagmin II and functions as an adaptor protein that is involved in endocytotic machinery and may also play a role in vesicle recycling and clathrin-coated vesicle uncoating. Multiple isoforms of STON2 exist due to alternative slicing events. The gene encoding STON2 maps to human chromosome 14, which houses over 700 genes and comprises nearly 3.5% of the human genome. Chromosome 14 encodes the presinilin 1 (PSEN1) gene, which is one of the three key genes associated with the development of Alzheimer's disease (AD). The SERPINA1 gene is also located on chromosome 14 and, when defective, leads to the genetic disorder α1-antitrypsin deficiency, which is characterized by severe lung complications and liver dysfunction.

REFERENCES

1. Brunger, A.T. 2001. Structural insights into the molecular mechanism of calcium-dependent vesicle-membrane fusion. Curr. Opin. Struct. Biol. 11: 163-173.
2. Walther, K., Krauss, M., Diril, M.K., Lemke, S., Ricotta, D., Honing, S., Kaiser, S. and Haucke, V. 2001. Human stoned B interacts with AP-2 and Synaptotagmin and facilitates clathrin-coated vesicle uncoating. EMBO Rep. 2: 634-640.
3. Martina, J.A., Bonangelino, C.J., Aguilar, R.C. and Bonifacino, J.S. 2001. Stonin 2: an adaptor-like protein that interacts with components of the endocytic machinery. J. Cell Biol. 15: 1111-1120.
4. Walther, K., Diril, M.K., Jung, N. and Haucke, V. 2004. Functional dissection of the interactions of stonin 2 with the adaptor complex AP-2 and Synaptotagmin. Proc. Natl. Acad. Sci. USA 101: 964-969.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 608467. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: STON2 (human) mapping to 14q31.1.

PRODUCT

STON2 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 STON2 shRNA Plasmid (h): sc-92095-SH and STON2 shRNA (h) Lentiviral Particles: sc-92095-V as alternate gene silencing products.

For independent verification of STON2 (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-92095A, sc-92095B and sc-92095C.

RESEARCH USE

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

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

STON2 siRNA (h) is recommended for the inhibition of STON2 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

STON2 (A-5): sc-514542 is recommended as a control antibody for monitoring of STON2 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 STON2 gene expression knockdown using RT-PCR Primer: STON2 (h)-PR: sc-92095-PR (20 µl, 444 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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