SANTA CRUZ BIOTECHNOLOGY, INC.

Syne-2 siRNA (m): sc-61631

BACKGROUND

Synaptic nuclear envelope protein 2 (Syne-2), also referred to as nesprin-2, is a 6,884 amino acid vertebrate protein that interacts with emerin and Lamin A at the nuclear envelope. Syne-2 is highly expressed in kidney, liver, stomach, placenta, spleen, lymphatic nodes and peripheral blood lymphocytes, but can be found in almost all types of cells. Syne-2 contains a C-terminal transmembrane domain (designated the KLS domain) linked by a spectrin-repeat rod domain to an N-terminal paired, Actin-binding, calponin-homology domain. This structure suggests that Syne-2 is capable of mediating signaling between cell membranes and the cytoskeleton. The Syne-2 gene gives rise to many isoforms, which vary largely in size. Mutations in the Syne-2 gene may be linked to a broad range of human diseases, including laminopathies.

REFERENCES

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2. Zhang, Q., Ragnauth, C., Greener, M.J., Shanahan, C.M. and Roberts, R.G. 2002. The nesprins are giant Actin-binding proteins, orthologous to *Drosophila melanogaster* muscle protein MSP-300. Genomics 80: 473-481.
3. Zhang, Q., Skepper, J.N., Yang, F., Davies, J.D., Hegyi, L., Roberts, R.G., Weissberg, P.L., Ellis, J.A. and Shanahan, C.M. 2002. Nesprins: a novel family of spectrin-repeat-containing proteins that localize to the nuclear membrane in multiple tissues. J. Cell Sci. 114: 4485-4498.
4. Zhen, Y.Y., Libotte, T., Munck, M., Noegel, A.A. and Korenbaum, E. 2002. NUANCE, a giant protein connecting the nucleus and Actin cytoskeleton. J. Cell Sci. 115: 3207-3222.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608442. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Syne2 (mouse) mapping to 12 C3.

PRODUCT

Syne-2 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 Syne-2 shRNA Plasmid (m): sc-61631-SH and Syne-2 shRNA (m) Lentiviral Particles: sc-61631-V as alternate gene silencing products.

For independent verification of Syne-2 (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-61631A, sc-61631B and sc-61631C.

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

Syne-2 siRNA (m) is recommended for the inhibition of Syne-2 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.

GENE EXPRESSION MONITORING

Syne-2 (C-1): sc-365097 is recommended as a control antibody for monitoring of Syne-2 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 Syne-2 gene expression knockdown using RT-PCR Primer: Syne-2 (m)-PR: sc-61631-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.