SANTA CRUZ BIOTECHNOLOGY, INC.

Nicalin siRNA (m): sc-62688

BACKGROUND

Nicastrin is an integral part of the Alzheimers associated γ-secretase complex. Nicalin, a nicastrin-like protein, is not associated with γ-secretase but rather interacts with NOMO (nodal modulator). Nodals are TGF β signaling factors that control various cell fate decisions during embryonic body planning stages in vertebrate development. The Nicalin/NOMO complex acts to regulate the nodal signaling factors during gastrulation. This regulation most often affects the development of the axial mesoderm. Nodal signaling is an important factor for melanoma cell invasiveness and tumorigenicity and inhibition of this signal can promote melanoma cells reverting back toward a melanocyte phenotype.

REFERENCES

1. Chen, F., et al. 2001. Nicastrin binds to membrane-tethered Notch. Nat. Cell Biol. 3: 751-754.
2. Hu, Y., et al. 2002. Nicastrin is required for γ-secretase cleavage of the *Drosophila* Notch receptor. Dev. Cell 2: 69-78.
3. Haffner, C., et al. 2004. Nicalin and its binding partner Nomo are novel Nodal signaling antagonists. EMBO J. 23: 3041-3050.
4. Haffner, C. and Haass, C. 2004. The biochemical and genetic odyssey to the function of a nicastrin-like protein. Neurodegener. Dis. 1: 192-195.
5. Topczewska, J.M., et al. 2006. Embryonic and tumorigenic pathways converge via Nodal signaling: role in melanoma aggressiveness. Nat. Med. 12: 925-932.
6. Haffner, C. and Haass, C. 2006. Cellular functions of γ-secretase-related proteins. Neurodegener. Dis. 3: 284-289.
7. Haffner, C., et al. 2007. The Nicastrin-like protein Nicalin regulates assembly and stability of the Nicalin-nodal modulator (NOMO) membrane protein complex. J. Biol. Chem. 282: 10632-10638.

CHROMOSOMAL LOCATION

Genetic locus: Ncln (mouse) mapping to 10 C1.

PRODUCT

Nicalin 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 Nicalin shRNA Plasmid (m): sc-62688-SH and Nicalin shRNA (m) Lentiviral Particles: sc-62688-V as alternate gene silencing products.

For independent verification of Nicalin (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-62688A, sc-62688B and sc-62688C.

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

Nicalin siRNA (m) is recommended for the inhibition of Nicalin 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Nicalin gene expression knockdown using RT-PCR Primer: Nicalin (m)-PR: sc-62688-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.