SANTA CRUZ BIOTECHNOLOGY, INC.

N-cadherin siRNA (m): sc-35999

BACKGROUND

Cadherins comprise a family of Ca^{2+}-dependent adhesion molecules that function to mediate cell-cell binding critical to the maintenance of tissue structure and morphogenesis. The classical cadherins, E-, N- and P-cadherin, consist of large extracellular domains characterized by a series of five homologous NH_2 terminal repeats. The most distal of these cadherins is thought to be responsible for binding specificity, transmembrane domains and carboxy-terminal intracellular domains. The relatively short intracellular domains interact with a variety of cytoplasmic proteins, such as β-catenin, to regulate cadherin function. Members of this family of adhesion proteins include rat cadherin K (and its human homolog, cadherin-6), R-cadherin, B-cadherin, E/P cadherin and cadherin-5.

CHROMOSOMAL LOCATION

Genetic locus: Cdh2 (mouse) mapping to 18 A1.

PRODUCT

N-cadherin 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 N-cadherin shRNA Plasmid (m): sc-35999-SH and N-cadherin shRNA (m) Lentiviral Particles: sc-35999-V as alternate gene silencing products.

For independent verification of N-cadherin (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-35999A, sc-35999B and sc-35999C.

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

N-cadherin siRNA (m) is recommended for the inhibition of N-cadherin 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

N/R-cadherin (H-4): sc-271386 is recommended as a control antibody for monitoring of N-cadherin 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 N-cadherin gene expression knockdown using RT-PCR Primer: N-cadherin (m)-PR: sc-35999-PR (20 µl, 408 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Phan, Q.T., et al. 2005. N-cadherin mediates endocytosis of *Candida albicans* by endothelial cells. J. Biol. Chem. 280: 10455-10461.
2. Hay, E., et al. 2009. N-cadherin interacts with axin and LRP5 to negatively regulate Wnt/β-catenin signaling, osteoblast function, and bone formation. Mol. Cell. Biol. 29: 953-964.
3. Haÿ, E., et al. 2012. Peptide-based mediated disruption of N-cadherin-LRP5/6 interaction promotes Wnt signaling and bone formation. J. Bone Miner. Res. 27: 1852-1863.
4. Tsai, Y.H., et al. 2013. Murinization of internalin extends its receptor repertoire, altering *Listeria monocytogenes* cell tropism and host responses. PLoS Pathog. 9: e1003381.
5. Kim, S., et al. 2014. Slug promotes survival during metastasis through suppression of Puma-mediated apoptosis. Cancer Res. 74: 3695-3706.
6. Griffin, F.E., et al. 2017. The role of adhesion junctions in the biomechanical behaviour and osteogenic differentiation of 3D mesenchymal stem cell spheroids. J. Biomech. 59: 71-79.
7. Bertillot, F., et al. 2024. Compressive stress triggers fibroblasts spreading over cancer cells to generate carcinoma *in situ* organization. Commun. Biol. 7: 184.

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.