SANTA CRUZ BIOTECHNOLOGY, INC.

N-cadherin siRNA (h): sc-29403

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 (human) mapping to 18q12.1.

PRODUCT

N-cadherin 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 N-cadherin shRNA Plasmid (h): sc-29403-SH and N-cadherin shRNA (h) Lentiviral Particles: sc-29403-V as alternate gene silencing products.

For independent verification of N-cadherin (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-29403A, sc-29403B and sc-29403C.

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 (h) is recommended for the inhibition of N-cadherin 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

N-cadherin (D-4): sc-8424 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 (h)-PR: sc-29403-PR (20 µl, 338 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Pon, Y.L., et al. 2005. Gonadotropins regulate N-cadherin-mediated human ovarian surface epithelial cell survival at both post-translational and transcriptional levels through a cyclic AMP/protein kinase A pathway. J. Biol. Chem. 280: 15438-15448.
2. Li, S., et al. 2009. An essential role for N-cadherin and β-catenin for progression in tongue squamous cell carcinoma and their effect on invasion and metastasis of Tca8113 tongue cancer cells. Oncol. Rep. 21: 1223-1233.
3. Ponnusamy, M.P., et al. 2010. MUC4 mucin-induced epithelial to mesenchymal transition: a novel mechanism for metastasis of human ovarian cancer cells. Oncogene 29: 5741-5754.
4. Abdelsamie, S.A., et al. 2011. Oxidized LDL immune complexes stimulate collagen IV production in mesangial cells via Fc gamma receptors I and III. Clin. Immunol. 139: 258-266.
5. Cho, K.H., et al. 2014. A ROS/Stat3/HIF-1α signaling cascade mediates EGF-induced TWIST1 expression and prostate cancer cell invasion. Prostate 74: 528-536.
6. Brinson, C.W., et al. 2016. Lipopolysaccharide and IL-1β coordinate a synergy on cytokine production by upregulating MyD88 expression in human gingival fibroblasts. Mol. Immunol. 79: 47-54.
7. Lu, Z., et al. 2017. Cooperative stimulation of atherogenesis by lipopolysaccharide and palmitic acid-rich high fat diet in low-density lipoprotein receptor-deficient mice. Atherosclerosis 265: 231-241.

RESEARCH USE

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