SANTA CRUZ BIOTECHNOLOGY, INC.

VE-cadherin-2 siRNA (m): sc-76897

BACKGROUND

The cadherins are a family of Ca^{2+}-dependent adhesion molecules that function to mediate cell-cell binding critical to the maintenance of tissue structure and morphogenesis. Cadherins each contain a large extracellular domain at the amino-terminus, which is characterized by a series of five homologous repeats, the most distal of which is thought to be responsible for binding specificity. The relatively short carboxy-terminal, intracellular domain interacts with a variety of cytoplasmic proteins, including β-catenin, to regulate cadherin function. VE-caderhin-2, also known as PCDH12 (protocadherin 12), VECAD2 or PCDH12, is a 1,184 amino acid single-pass type I membrane protein that is highly expressed in vascularized tissues, including heart and placenta. VE-caderhin-2 may play an important role in cell-cell interactions and may promote homotypic calcium-dependent aggregation and adhesion at intercellular junctions.

REFERENCES

1. Telo', P., et al. 1998. Identification of a novel cadherin (vascular endothelial cadherin-2) located at intercellular junctions in endothelial cells. J. Biol. Chem. 273: 17565-17572.
2. Ludwig, D., et al. 2000. cDNA cloning, chromosomal mapping, and expression analysis of human VE-Cadherin-2. Mamm. Genome 11: 1030-1033.
3. Rampon, C., et al. 2005. Protocadherin 12 (VE-cadherin 2) is expressed in endothelial, trophoblast, and mesangial cells. Exp. Cell Res. 302: 48-60.
4. Cavallaro, U., et al. 2006. Endothelial cadherins and tumor angiogenesis. Exp. Cell Res. 312: 659-667.
5. Bouillot, S., et al. 2006. Tracing the glycogen cells with protocadherin 12 during mouse placenta development. Placenta 27: 882-888.
6. Son, B.R., et al. 2006. Migration of bone marrow and cord blood mesenchymal stem cells *in vitro* is regulated by stromal-derived factor-1-CXCR4 and hepatocyte growth factor-c-met axes and involves matrix metalloproteinases. Stem Cells 24: 1254-1264.
7. Turowski, P., et al. 2008. Phosphorylation of vascular endothelial cadherin controls lymphocyte emigration. J. Cell Sci. 121: 29-37.

CHROMOSOMAL LOCATION

Genetic locus: Pcdh12 (mouse) mapping to 18 B3.

PRODUCT

VE-cadherin-2 siRNA (m) is a target-specific 19-25 nt siRNA 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 VE-cadherin-2 shRNA Plasmid (m): sc-76897-SH and VE-cadherin-2 shRNA (m) Lentiviral Particles: sc-76897-V as alternate gene silencing products.

For independent verification of VE-cadherin-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-76897A, sc-76897B and sc-76897C.

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

VE-cadherin-2 siRNA (m) is recommended for the inhibition of VE-cadherin-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

VE-cadherin-2 (F-4): sc-515467 is recommended as a control antibody for monitoring of VE-cadherin-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 VE-cadherin-2 gene expression knockdown using RT-PCR Primer: VE-cadherin-2 (m)-PR: sc-76897-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.

PROTOCOLS

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