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SANTA CRUZ BIOTECHNOLOGY, INC.

cadherin-16 siRNA (m): sc-45611

BACKGROUND

The cadherins are a family of Ca^{2+}-dependent adhesion molecules that function to mediate cell-cell binding critical to the maintenance of structure and morphogenesis. Cadherins each contain a large extracellular domain at the N-terminus, which is characterized by a series of five homologous repeats, the most distal of which is thought to be responsible for binding specificity. Cadherin-16, also known as Ksp-cadherin, is a type I membrane protein which is kidney-specific. Cadherin-16 is expressed exclusively in the basolateral membrane of renal tubular epithelial cells. The human cadherin-16 gene maps to chromosome 16q21-proximal 16q22. The mouse cadherin-16 gene was localized to a highly syntenic region of distal chromosome 8.

REFERENCES

1. Whyte, D.A., et al. 1999. Ksp-cadherin gene promoter. I. Characterization and renal epithelial cell-specific activity. Am. J. Physiol. 277: F587-F598.
2. Meyer, T.N., et al. 2004. Spatiotemporal regulation of morphogenetic molecules during *in vitro* branching of the isolated ureteric bud: toward a model of branching through budding in the developing kidney. Dev. Biol. 275: 44-67.
3. Jung, K.Y., et al. 2004. Loss of N-cadherin and α-catenin in the proximal tubules of aging male Fischer 344 rats. Mech. Ageing Dev. 125: 445-453.
4. Jiang, J., et al. 2004. Disruption of cadherin/catenin expression, localization and interactions during $HgCl_2$-induced nephrotoxicity. Toxicol. Sci. 80: 170-182.
5. Mazal, P.R., et al. 2005. Expression of kidney-specific cadherin distinguishes chromophobe renal cell carcinoma from renal oncocytoma. Hum. Pathol. 36: 22-28.
6. Shen, S.S., et al. 2005. Kidney-specific cadherin, a specific marker for the distal portion of the nephron and related renal neoplasms. Mod. Pathol. 18: 933-940.

CHROMOSOMAL LOCATION

Genetic locus: Cdh16 (mouse) mapping to 8 D3.

PRODUCT

cadherin-16 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 cadherin-16 shRNA Plasmid (m): sc-45611-SH and cadherin-16 shRNA (m) Lentiviral Particles: sc-45611-V as alternate gene silencing products.

For independent verification of cadherin-16 (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-45611A, sc-45611B and sc-45611C.

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

cadherin-16 siRNA (m) is recommended for the inhibition of cadherin-16 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

cadherin-16 (E-7): sc-393153 is recommended as a control antibody for monitoring of cadherin-16 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 cadherin-16 gene expression knockdown using RT-PCR Primer: cadherin-16 (m)-PR: sc-45611-PR (20 µl, 599 bp). 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.