

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

- Whyte, D.A., et al. 1999. Ksp-cadherin gene promoter. I. Characterization and renal epithelial cell-specific activity. *Am. J. Physiol.* 277: F587-F598.
- 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.
- 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.
- Jiang, J., et al. 2004. Disruption of cadherin/catenin expression, localization and interactions during HgCl_2 -induced nephrotoxicity. *Toxicol. Sci.* 80: 170-182.
- Mazal, P.R., et al. 2005. Expression of kidney-specific cadherin distinguishes chromophobe renal cell carcinoma from renal oncocytoma. *Hum. Pathol.* 36: 22-28.
- 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.
- Rakha, E.A., et al. 2005. High-resolution analysis of 16q22.1 in breast carcinoma using DNA amplifiable probes (multiplex amplifiable probe hybridization technique) and immunohistochemistry. *Int. J. Cancer* 114: 720-729.

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.

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-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz MarkerTM Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 $55-60^\circ\text{C}$ and the extension temperature should be $68-72^\circ\text{C}$.

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.