SANTA CRUZ BIOTECHNOLOGY, INC.

μ-protocadherin siRNA (h): sc-72286

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The Power to Question

BACKGROUND

The mucin-like protocadherin, μ-protocadherin, is a developmentally regulated, single pass type I transmembrane protein that belongs to the cadherin superfamily. It contains four cadherin-like ectodomains, a triply repeating Mucin domain, four SH3 binding regions, N- and O-glycosylation sites and a possible C-terminal PDZ binding domain. μ-protocadherin is expressed in various epithelial tissues and localizes to the apical surface along the brush border of the proximal convoluted tubule. It acts as a calcium-dependent cell adhesion molecule mediating cell aggregation and may play a role in the activation of signaling events. Due to alternative splicing at least four isoforms exist for μ-protocadherin. These isoforms vary in the region containing the mucin-like domains. Only the longest isoform contains the triply repeating mucin domain.

REFERENCES

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2. Paris, M.J. and Williams, B.R. 2001. Characterization of a 500-kb contig spanning the region between c-Ha-Ras and MUC2 on chromosome 11p15.5. Genomics 69: 196-202.
3. Goldberg, M., et al. 2002. Identification and expression analysis of the human μ-protocadherin gene in fetal and adult kidneys. Am. J. Physiol. Renal Physiol. 283: F454-F463.
4. Goldberg, M., et al. 2003. Biallelic expression of HRAS and MUCDHL in human and mouse. Hum. Genet. 112: 334-342.
5. Wang, Y., et al. 2004. Gene expression profiles and molecular markers to predict recurrence of Dukes' B colon cancer. J. Clin. Oncol. 22: 1564-1571.
6. Moulton, D.E., et al. 2004. Expression of a novel cadherin in the mouse and human intestine. Pediatr. Res. 55: 927-934.
7. Redies, C., et al. 2005. δ-protocadherins: unique structures and functions. Cell. Mol. Life Sci. 62: 2840-2852.
8. Kostadinov, R., et al. 2006. GRSDB: a database of quadruplex forming G-rich sequences in alternatively processed mammalian pre-mRNA sequences. Nucleic Acids Res. 34: D119-D124.

CHROMOSOMAL LOCATION

Genetic locus: CDHR5 (human) mapping to 11p15.5.

PRODUCT

μ-protocadherin 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 μ-protocadherin shRNA Plasmid (h): sc-72286-SH and μ-protocadherin shRNA (h) Lentiviral Particles: sc-72286-V as alternate gene silencing products.

For independent verification of μ-protocadherin (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-72286A, sc-72286B and sc-72286C.

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

μ-protocadherin siRNA (h) is recommended for the inhibition of μ-protocadherin 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

μ-protocadherin (A-11): sc-166953 is recommended as a control antibody for monitoring of μ-protocadherin 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 μ-protocadherin gene expression knockdown using RT-PCR Primer: μ-protocadherin (h)-PR: sc-72286-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.