SANTA CRUZ BIOTECHNOLOGY, INC.

EY-cadherin siRNA (h): sc-91694

BACKGROUND

The cadherins are a family of Ca^{2+}-dependent adhesion molecules that function to mediate cell-cell binding events that are critical to the maintenance of cell structure and morphogenesis. EY-cadherin, also known as CDH18 (cadherin 18), CDH14 (cadherin 14), CDH24 or CDH14L, is a 790 amino acid single-pass type I membrane protein that contains five cadherin domains. One of several members of the cadherin superfamily, EY-cadherin functions as a type II classical cadherin that is expressed specifically in the central nervous system (CNS), where it plays a role in cell-cell binding events. Specifically, EY-cadherin is thought to be involved in axon guidance and outgrowth, as well as synaptic adhesion within the CNS. EY-cadherin contains a highly conserved C-terminal domain characteristic of all cadherins, but lacks the HAV cell adhesion sequence that is specific to type I cadherins. The gene encoding EY-cadherin is located within a region on chromosome five that is commonly deleted in carcinomas, implicating EY-cadherin as a potential tumor suppressor.

REFERENCES

1. Shibata, T., et al. 1997. Identification of human cadherin-14, a novel neurally specific type II cadherin, by protein interaction cloning. J. Biol. Chem. 272: 5236-5240.
2. Kools, P., et al. 1999. The human cadherin-10 gene: complete coding sequence, predominant expression in the brain, and mapping on chromosome 5p13-14. FEBS Lett. 452: 328-334.
3. Chalmers, I.J., et al. 1999. Mapping of a cadherin gene cluster to a region of chromosome 5 subject to frequent allelic loss in carcinoma. Genomics 57: 160-163.
4. Shimoyama, Y., et al. 1999. Biochemical characterization and functional analysis of two type II classic cadherins, cadherin-6 and -14, and comparison with E-cadherin. J. Biol. Chem. 274: 11987-11994.
5. Shimoyama, Y., et al. 2000. Identification of three human type-II classic cadherins and frequent heterophilic interactions between different subclasses of type-II classic cadherins. Biochem. J. 349: 159-167.
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CHROMOSOMAL LOCATION

Genetic locus: CDH18 (human) mapping to 5p14.3.

PRODUCT

EY-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 EY-cadherin shRNA Plasmid (h): sc-91694-SH and EY-cadherin shRNA (h) Lentiviral Particles: sc-91694-V as alternate gene silencing products.

For independent verification of EY-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-91694A, sc-91694B and sc-91694C.

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

EY-cadherin siRNA (h) is recommended for the inhibition of EY-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

EY-cadherin (YB.2): sc-81791 is recommended as a control antibody for monitoring of EY-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 EY-cadherin gene expression knockdown using RT-PCR Primer: EY-cadherin (h)-PR: sc-91694-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.