

CELSR1 siRNA (h): sc-60349

BACKGROUND

Drosophila Flamingo is a seven pass transmembrane cadherin that is necessary for dendritic patterning and axon guidance. Flamingo mammalian homologs play similar roles in neuronal development, during which they play an important role in cell-cell signaling. Cadherin EGF LAG seven pass G-type receptors (CELSRs) are multi-pass membrane proteins that belong to the G protein-coupled receptor family of proteins. Silencing CELSR2 gene expression results in significant simplification of dendritic arbors of cortical pyramidal neurons and Purkinje neurons, which may be due to branch retraction. In mouse, CELSR1, CELSR2 and CELSR3 are expressed in the nervous system at early developmental stages, and show expression patterns in the developing CNS. CELSR2 is distributed at intercellular boundaries in the whisker and on processes of neuronal cells such as hippocampal pyramidal cells, Purkinje cells and olfactory neurons.

REFERENCES

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2. Tissir, F., et al. 2002. Developmental expression profiles of CELSR (Flamingo) genes in the mouse. *Mech. Dev.* 112: 157-160.
3. Curtin, J.A., et al. 2003. Mutation of CELSR1 disrupts planar polarity of inner ear hair cells and causes severe neural tube defects in the mouse. *Curr. Biol.* 13: 1129-1133.
4. Georgieva, L., et al. 2003. Genetic variation in the seven-pass transmembrane cadherin CELSR1: lack of association with schizophrenia. *Psychiatr. Genet.* 13: 103-106.
5. Formstone, C.J., et al. 2005. Expression of the CELSR/Flamingo homologue, c-Fmi1, in the early avian embryo indicates a conserved role in neural tube closure and additional roles in asymmetry and somitogenesis. *Dev. Dyn.* 232: 408-413.
6. Beall, S.A., et al. 2005. Hybrid GPCR/cadherin (CELSR) proteins in rat testis are expressed with cell type specificity and exhibit differential Sertoli cell-germ-cell adhesion activity. *J. Androl.* 26: 529-538.

CHROMOSOMAL LOCATION

Genetic locus: CELSR1 (human) mapping to 22q13.31.

PRODUCT

CELSR1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CELSR1 siRNA Plasmid (h): sc-60349-SH and CELSR1 shRNA (h) Lentiviral Particles: sc-60349-V as alternate gene silencing products.

For independent verification of CELSR1 (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-60349A, sc-60349B and sc-60349C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

CELSR1 siRNA (h) is recommended for the inhibition of CELSR1 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 μ M in 66 μ l. 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

CELSR1 (E-3): sc-514376 is recommended as a control antibody for monitoring of CELSR1 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 Marker[™] 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 CELSR1 gene expression knockdown using RT-PCR Primer: CELSR1 (h)-PR: sc-60349-PR (20 μ l, 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.

PROTOCOLS

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