

Reelin siRNA (h): sc-42208

BACKGROUND

Reelin (or Reln) is a large glycoprotein that is secreted by Cajal-Retzius cells in the forebrain and by granule neurons in the cerebellum. Reelin was shown to be mutated in "reeler" mice, a mutation that is associated with widespread disruption of laminated regions of the brain, leading to impaired motor coordination, tremors and ataxia. Reelin protein expression is complex and changes throughout development. Reelin appears to function upstream of Dab1 in a signaling pathway that controls cell positioning in the developing brain and is also thought to be a direct effector of the neurotrophin BDNF.

REFERENCES

1. D'Arcangelo, G., et al. 1995. A protein related to extracellular matrix proteins deleted in the mouse mutant reeler. *Nature* 374: 719-723.
2. Curran, T., et al. 1998. Role of Reelin in the control of brain development. *Brain Res. Brain Res. Rev.* 26: 285-294.
3. Alcantara, S., et al. 1998. Regional and cellular patterns of Reelin mRNA expression in the forebrain of the developing and adult mouse. *J. Neurosci.* 18: 7779-7799.
4. Pesold, C., et al. 1998. Reelin is preferentially expressed in neurons synthesizing γ -aminobutyric acid in cortex and hippocampus of adult rats. *Proc. Natl. Acad. Sci. USA* 95: 3221-3226.
5. Rice, D.S., et al. 1998. Disabled-1 acts downstream of Reelin in a signaling pathway that controls laminar organization in the mammalian brain. *Development* 125: 3719-3729.
6. Ringstedt, T., et al. 1998. BDNF regulates Reelin expression and Cajal-Retzius cell development in the cerebral cortex. *Neuron* 21: 305-315.

CHROMOSOMAL LOCATION

Genetic locus: RELN (human) mapping to 7q22.1.

PRODUCT

Reelin 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 Reelin shRNA Plasmid (h): sc-42208-SH and Reelin shRNA (h) Lentiviral Particles: sc-42208-V as alternate gene silencing products.

For independent verification of Reelin (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-42208A, sc-42208B and sc-42208C.

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

Reelin siRNA (h) is recommended for the inhibition of Reelin 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

Reelin (E-5): sc-25346 is recommended as a control antibody for monitoring of Reelin 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 Reelin gene expression knockdown using RT-PCR Primer: Reelin (h)-PR: sc-42208-PR (20 μ l, 459 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kang, Z.C., et al. 2020. Pinocembrin ameliorates cognitive impairment induced by vascular dementia: contribution of Reelin-dab1 signaling pathway. *Drug Des. Devel. Ther.* 14: 3577-3587.
2. Liu, X., et al. 2020. Lymphoangiocrine signals promote cardiac growth and repair. *Nature* 588: 705-711.

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.