SANTA CRUZ BIOTECHNOLOGY, INC.

CHL1 siRNA (h): sc-45787

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The Power to Question

BACKGROUND

Neural cell adhesion molecules play an important role in neural cell interactions and neuronal deovelopment and growth. Close Homolog of L1 (CHL1), also designated cell adhesion molecule with homology to L1CAM or L1 cell adhesion molecule 2, belongs to the L1 gene family of neural cell adhesion molecules. CHL1 plays a role in signal transduction pathways and is involved in cell migration, axon growth and guidance. It is required for neuronal positioning and dendritic growth of pyramidal neurons in the posterior region of the developing mouse neocortex. CHL1 is expressed in pyramidal neurons in a high-caudal to low-rostral gradient within the developing cortex.

REFERENCES

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2. Sakurai, K., et al. 2002. An association between a missense polymorphism in the close homologue of L1 (CHL1, CALL) gene and schizophrenia. Mol. Psychiatry 7: 412-415.
3. Irintchev, A., et al. 2004. Impairment of sensorimotor gating in mice deficient in the cell adhesion molecule L1 or its close homologue, CHL1. Brain Res. 1029: 131-134.
4. Demyanenko, G.P., et al. 2004. Close homolog of L1 modulates area-specific neuronal positioning and dendrite orientation in the cerebral cortex. Neuron 44: 423-437.
5. Munos, S., et al. 2004. Transcript profiling in the CHL1-5 mutant of *Arabidopsis* reveals a role of the nitrate transporter NRT1.1 in the regulation of another nitrate transporter, NRT2.1. Plant Cell 16: 2433-2447.
6. Petronczki, M., et al. 2004. Sister-chromatid cohesion mediated by the alternative RF-CCtf18/Dcc1/Ctf8, the helicase Chl1 and the polymerase-α-associated protein Ctf4 is essential for chromatid disjunction during meiosis II. J. Cell Sci. 117: 3547-3559.
7. Rokman, A., et al. 2005. Hereditary prostate cancer in Finland: fine-mapping validates 3p26 as a major predisposition locus. Hum. Genet. 116: 43-50.
8. Gast, D., et al. 2005. L1 augments cell migration and tumor growth but not β3 Integrin expression in ovarian carcinomas. Int. J. Cancer 115: 658-665.

CHROMOSOMAL LOCATION

Genetic locus: CHL1 (human) mapping to 3p26.3.

PRODUCT

CHL1 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 CHL1 shRNA Plasmid (h): sc-45787-SH and CHL1 shRNA (h) Lentiviral Particles: sc-45787-V as alternate gene silencing products.

For independent verification of CHL1 (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-45787A, sc-45787B and sc-45787C.

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

CHL1 shRNA Plasmid (h) is recommended for the inhibition of CHL1 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

CHL1 (2H5): sc-293293 is recommended as a control antibody for monitoring of CHL1 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 CHL1 gene expression knockdown using RT-PCR Primer: CHL1 (h)-PR: sc-45787-PR (20 µl, 381 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.