SANTA CRUZ BIOTECHNOLOGY, INC.

CASPR4 siRNA (h): sc-93335

BACKGROUND

Neurexins comprise a family of neuronal cell surface proteins, which include neurexin I (NRXN1), neurexin II (NRXN2), neurexin III (NRXN3) and CASPR (neurexin IV). CASPR4 (contactin associated protein-like 4), also known as CNTNAP4, is a 1,308 amino acid single-pass type I membrane protein belonging to the neurexin family. Possibly a cell adhesion protein, CASPR4 is expressed in multiple regions of the brain such as olfactory bulb, hippocampus and deep cerebellar nuclei, with highest expression found in spinal cord, substantia nigra and subthalamic nucleus. CASPR4 is expressed at moderate levels in fetal brain, with low expression in adult testis. Encoded by a gene that maps to human chromosome 16q23.1, CASPR4 contains four laminin G-like domains, a F5/8 type C domain, two EGF-like domains and a single fibrinogen C-terminal domain.

REFERENCES

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2. Nagase, T., et al. 2000. Prediction of the coding sequences of unidentified human genes. XIX. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 7: 347-355.
3. Spiegel, I., et al. 2002. Caspr3 and caspr4, two novel members of the caspr family are expressed in the nervous system and interact with PDZ domains. Mol. Cell. Neurosci. 20: 283-297.
4. Girault, J.A., et al. 2003. Transmembrane scaffolding proteins in the formation and stability of nodes of Ranvier. Biol. Cell 95: 447-452.
5. Traut, W., et al. 2006. New members of the neurexin superfamily: multiple rodent homologues of the human CASPR5 gene. Mamm. Genome 17: 723-731.
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CHROMOSOMAL LOCATION

Genetic locus: CNTNAP4 (human) mapping to 16q23.1.

PRODUCT

CASPR4 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 CASPR4 shRNA Plasmid (h): sc-93335-SH and CASPR4 shRNA (h) Lentiviral Particles: sc-93335-V as alternate gene silencing products.

For independent verification of CASPR4 (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-93335A, sc-93335B and sc-93335C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

CASPR4 siRNA (h) is recommended for the inhibition of CASPR4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CASPR4 gene expression knockdown using RT-PCR Primer: CASPR4 (h)-PR: sc-93335-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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