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SANTA CRUZ BIOTECHNOLOGY, INC.

Neuroplastin siRNA (m): sc-149938

BACKGROUND

Neuroplastin, also known as NPTN, GP55, GP65, SDR1 (stromal cell-derived receptor), np55 or SDFR1, is a single pass type I membrane protein that is predominantly expressed in brain and localizes to the cell membrane. Existing as a member of the Immunoglobulin (Ig) superfamily, Neuroplastin contains at least one Ig-like C2-type domain and at least one Ig-like V-type domain. Neuroplastin functions as a cell adhesion molecule and participates in cell-substrate or cell-cell interactions. Neuroplastin is believed to play a key role in mediating long-term changes in synaptic activity. In addition, Neuroplastin is overexpressed in breast cancers, suggesting a possible role in tumorigenesis. Due to alternative splicing events, Neuroplastin exists in at least two isoforms, namely np55 and np65. The np55 isoform is ubiquitously expressed, whereas the np65 isoform is exclusively expressed in brain.

REFERENCES

1. Smalla, K.H., et al. 2000. The synaptic glycoprotein neuroplastin is involved in long-term potentiation at hippocampal CA1 synapses. Proc. Natl. Acad. Sci. USA 97: 4327-4332.
2. Kreutz, M.R., et al. 2001. Distribution of transcript and protein isoforms of the synaptic glycoprotein neuroplastin in rat retina. Invest. Ophthalmol. Vis. Sci. 42: 1907-1914.
3. Muramatsu, T., et al. 2003. Basigin (CD147): a multifunctional transmembrane protein involved in reproduction, neural function, inflammation and tumor invasion. Histol. Histopathol. 18: 981-987.
4. Marzban, H., et al. 2003. Expression of the immunoglobulin superfamily neuroplastin adhesion molecules in adult and developing mouse cerebellum and their localisation to parasagittal stripes. J. Comp. Neurol. 462: 286-301.
5. Buckby, L.E., et al. 2004. Comparison of neuroplastin and synaptic marker protein expression in acute and cultured organotypic hippocampal slices from rat. Brain Res. Dev. Brain Res. 150: 1-7.

CHROMOSOMAL LOCATION

Genetic locus: Nptn (mouse) mapping to 9 B.

PRODUCT

Neuroplastin siRNA (m) 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 Neuroplastin shRNA Plasmid (m): sc-149938-SH and Neuroplastin shRNA (m) Lentiviral Particles: sc-149938-V as alternate gene silencing products.

For independent verification of Neuroplastin (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-149938A, sc-149938B and sc-149938C.

PROTOCOLS

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

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

Neuroplastin siRNA (m) is recommended for the inhibition of Neuroplastin expression in mouse 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 Neuroplastin gene expression knockdown using RT-PCR Primer: Neuroplastin (m)-PR: sc-149938-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.