SANTA CRUZ BIOTECHNOLOGY, INC.

CDNF siRNA (h): sc-90514

BACKGROUND

CDNF (cerebral dopamine neurotrophic factor, ARMET-like protein 1) is an ARMET family member that is known to be a trophic factor for dopamine neurons. CDNF has been shown to prevent the 6-hydroxydopamine (6-OHDA)-induced degeneration of dopaminergic neurons. CDNF application will restore the dopaminergic function that is reduced by lesions formed from administering 6-OHDA. CDNF further prevents the degeneration of dopaminergic neurons in substantia nigra. CDNF is expressed at high levels in the heart, skeletal muscle, testis and brain. In brain, CDNF has selective expression with the highest being detected in the Purkinje cells of the cerebellum and in regions of the brain stem, including the locus coeruleus.

REFERENCES

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2. Dauer, W. 2007. Neurotrophic factors and Parkinson's disease: the emergence of a new player? Sci. STKE 2007: pe60.
3. Lindholm, P., et al. 2008. MANF is widely expressed in mammalian tissues and differently regulated after ischemic and epileptic insults in rodent brain. Mol. Cell. Neurosci. 39: 356-371.
4. Lohoff, F.W., et al. 2009. Association analysis between polymorphisms in the conserved dopamine neurotrophic factor (CDNF) gene and cocaine dependence. Neurosci. Lett. 453: 199-203.
5. Palgi, M., et al. 2009. Evidence that DmMANF is an invertebrate neurotrophic factor supporting dopaminergic neurons. Proc. Natl. Acad. Sci. USA 106: 2429-2434.
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7. Gyárfás, T., et al. 2010. Regulation of brain-derived neurotrophic factor (BDNF) and cerebral dopamine neurotrophic factor (CDNF) by anti-parkinsonian drug therapy *in vivo*. Cell. Mol. Neurobiol. 30: 361-368.
8. Lindholm, P. and Saarma, M. 2010. Novel CDNF/MANF family of neurotrophic factors. Dev. Neurobiol. 70: 360-371.

CHROMOSOMAL LOCATION

Genetic locus: CDNF (human) mapping to 10p13.

PRODUCT

CDNF 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 CDNF shRNA Plasmid (h): sc-90514-SH and CDNF shRNA (h) Lentiviral Particles: sc-90514-V as alternate gene silencing products.

For independent verification of CDNF (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-90514A, sc-90514B and sc-90514C.

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

CDNF siRNA (h) is recommended for the inhibition of CDNF 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 CDNF gene expression knockdown using RT-PCR Primer: CDNF (h)-PR: sc-90514-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.

PROTOCOLS

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