

CDNF (M-14): sc-162667

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

- Lindholm, P., Voutilainen, M.H., Laurén, J., Peränen, J., Leppänen, V.M., Andressoo, J.O., Lindahl, M., Janhunen, S., Kalkkinen, N., Timmusk, T., Tuominen, R.K. and Saarma, M. 2007. Novel neurotrophic factor CDNF protects and rescues midbrain dopamine neurons *in vivo*. *Nature* 448: 73-77.
- Dauer, W. 2007. Neurotrophic factors and Parkinson's disease: the emergence of a new player? *Sci. STKE* 2007: pe60.
- Lindholm, P., Peränen, J., Andressoo, J.O., Kalkkinen, N., Kokaia, Z., Lindvall, O., Timmusk, T. and Saarma, M. 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.
- Gyárfás, T., Knuutila, J., Lindholm, P., Rantamäki, T. and Castrén, E. 2009. Regulation of brain-derived neurotrophic factor (BDNF) and cerebral dopamine neurotrophic factor (CDNF) by anti-Parkinsonian drug therapy *in vivo*. *Cell. Mol. Neurobiol.* E-published.
- Lohoff, F.W., Bloch, P.J., Ferraro, T.N., Berrettini, W.H., Pettinati, H.M., Dackis, C.A., O'Brien, C.P., Kampman, K.M. and Oslin, D.W. 2009. Association analysis between polymorphisms in the conserved dopamine neurotrophic factor (CDNF) gene and cocaine dependence. *Neurosci. Lett.* 453: 199-203.
- Palgi, M., Lindström, R., Peränen, J., Piepponen, T.P., Saarma, M. and Heino, T.I. 2009. Evidence that DmMANF is an invertebrate neurotrophic factor supporting dopaminergic neurons. *Proc. Natl. Acad. Sci. USA* 106: 2429-2434.
- Parkash, V., Lindholm, P., Peränen, J., Kalkkinen, N., Oksanen, E., Saarma, M., Leppänen, V.M. and Goldman, A. 2009. The structure of the conserved neurotrophic factors MANF and CDNF explains why they are bifunctional. *Protein Eng. Des. Sel.* 22: 233-241.
- Lindholm, P. and Saarma, M. 2010. Novel CDNF/MANF family of neurotrophic factors. *Dev. Neurobiol.* E-published.

CHROMOSOMAL LOCATION

Genetic locus: *Cdnf* (mouse) mapping to 2 A1; *Cdnf* (rat) mapping to 17q12.3.

RESEARCH USE

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

SOURCE

CDNF (M-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of CDNF of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-162667 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

CDNF (M-14) is recommended for detection of CDNF of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CDNF siRNA (m): sc-142233, CDNF shRNA Plasmid (m): sc-142233-SH and CDNF shRNA (m) Lentiviral Particles: sc-142233-V.

Molecular Weight of CDNF: 20 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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