

# GDNF (D-20): sc-328

## BACKGROUND

Glial cell line-derived neurotrophic factor (GDNF) has been identified as a potent neurotrophic factor that enhances survival of midbrain dopaminergic neurons. GDNF is a glycosylated, disulfide-bonded homodimer and is a distantly related member of the TGF $\beta$  superfamily of growth regulatory ligands. GDNF contains the seven conserved cysteine residues in the same relative spacing characteristic of all members of the TGF $\beta$  superfamily. In embryonic midbrain cultures, GDNF promotes the survival and morphological differentiation of dopaminergic neurons and increases their high-affinity dopamine uptake. On the basis of these findings, it has been suggested that GDNF may have utility in the treatment of Parkinson's disease, which is marked by progressive degeneration of midbrain dopaminergic neurons.

## CHROMOSOMAL LOCATION

Genetic locus: GDNF (human) mapping to 5p13.2; Gdnf (mouse) mapping to 15 A1.

## SOURCE

GDNF (D-20) is available as either rabbit (sc-328) or goat (sc-328-G) affinity purified antibody polyclonal raised against a peptide mapping near the C-terminus of GDNF of human origin.

## PRODUCT

Each vial contains either 100  $\mu$ g (sc-328) or 200  $\mu$ g (sc-328-G) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-328 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as agarose conjugate for immunoprecipitation, sc-328 AC, 500  $\mu$ g/0.25 ml agarose in 1 ml.

## APPLICATIONS

GDNF (D-20) is recommended for detection of GDNF p20 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GDNF (D-20) is also recommended for detection of GDNF p20 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for GDNF siRNA (h): sc-35462, GDNF siRNA (m): sc-35463, GDNF shRNA Plasmid (h): sc-35462-SH, GDNF shRNA Plasmid (m): sc-35463-SH, GDNF shRNA (h) Lentiviral Particles: sc-35462-V and GDNF shRNA (m) Lentiviral Particles: sc-35463-V.

Molecular Weight of GDNF: 15 kDa.

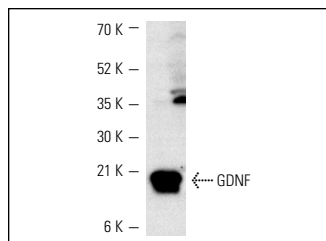
## STORAGE

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

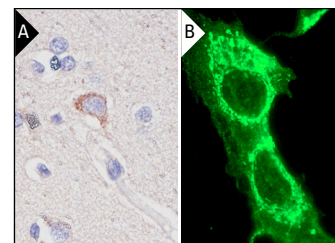
## RESEARCH USE

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

## DATA



GDNF (D-20): sc-328. Western blot analysis of GDNF expression in mouse brain extract.



GDNF (D-20): sc-328. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human brain tumor (A) and immunofluorescence staining of methanol-fixed SK-N-SH cells (B) showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Durbec, P., et al. 1996. GDNF signalling through the Ret receptor tyrosine kinase. *Nature* 381: 789-793.
- Lucini, C., et al. 2008. Cellular localization of GDNF and its GFR $\alpha$ 1/RET receptor complex in the developing pancreas of cat. *J. Anat.* 213: 565-572.
- Battaglia, G., et al. 2009. Activation of mGlu3 receptors stimulates the production of GDNF in striatal neurons. *PLoS ONE* 4: e6591.
- Farhi, J., et al. 2010. Glial cell line-derived neurotrophic factor (GDNF) and its receptors in human ovaries from fetuses, girls, and women. *Fertil. Steril.* 93: 2565-2571.
- Rana, O.R., et al. 2010. Mechanical stretch induces nerve sprouting in rat sympathetic neurocytes. *Auton. Neurosci.* 155: 25-32.
- Garcia, N., et al. 2010. The glial cell line-derived neurotrophic factor (GDNF) does not acutely change acetylcholine release in developing and adult neuromuscular junction. *Neurosci. Lett.* 480: 127-131.
- Rodrigues, D.M., et al. 2011. Glial cell line-derived neurotrophic factor is a key neurotrophin in the postnatal enteric nervous system. *Neurogastroenterol. Motil.* 23: e44-e56.
- Rocha, S.M., et al. 2012. Astrocyte-derived GDNF is a potent inhibitor of microglial activation. *Neurobiol. Dis.* 47: 407-415.
- Campos, F.L., et al. 2012. GDNF contributes to oestrogen-mediated protection of midbrain dopaminergic neurones. *J. Neuroendocrinol.* 24: 1386-1397.



Try **GDNF (B-8): sc-13147** or **GDNF (E-10): sc-398555**, our highly recommended monoclonal alternatives to GDNF (D-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **GDNF (B-8): sc-13147**.