

# VGF (D-20): sc-10381

## BACKGROUND

Nerve growth factor (NGF) is a peptide that plays a key role in the differentiation and survival of neurons in the peripheral nervous system (PNS) and the central nervous system (CNS). VGF is a peptide synthesized and secreted by neurons and is upregulated by NGF in the PC12 cell line. VGF is widely expressed in both the PNS and CNS, but is especially abundant in the adult hypothalamus. VGF plays an essential role in how the brain regulates energy expenditure and body weight. Its expression is rapidly induced by injury, the circadian clock, and neuronal activity.

## REFERENCES

1. Possenti, R., et al. 1989. A protein induced by NGF in PC12 cells is stored in secretory vesicles and released through the regulated pathway. *EMBO J.* 8: 2217-2223.
2. Salton, S.R., et al. 1991. Structure of the gene encoding VGF, a nervous system-specific mRNA that is rapidly and selectively induced by nerve growth factor in PC12 cells. *Mol. Cell. Biol.* 11: 2335-2349.

## CHROMOSOMAL LOCATION

Genetic locus: Vgf (mouse) mapping to 5 G2.

## SOURCE

VGF (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of VGF of rat 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-10381 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

VGF (D-20) is recommended for detection of VGF of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence and 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).

Suitable for use as control antibody for VGF siRNA (m): sc-42329, VGF shRNA Plasmid (m): sc-42329-SH and VGF shRNA (m) Lentiviral Particles: sc-42329-V.

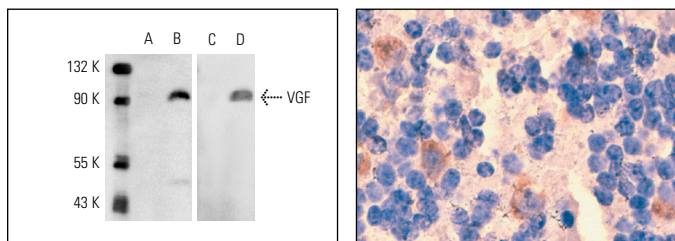
Molecular Weight of VGF: 90 kDa.

Positive Controls: PC-12 + NGF cell lysate: sc-3808.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Western blot analysis of VGF expression in whole cell lysates prepared from untreated (A,C) and NGF-treated (B,D) PC-12 cells. Antibodies tested include VGF (D-20): sc-10381 (A,B) and VGF (G-17): sc-10380 (C,D).

VGF (D-20): sc-10381. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse brain tissue showing cytoplasmic and extracellular localization.

## SELECT PRODUCT CITATIONS

1. Martin, J.N., et al. 2009. Transcriptional and proteomic profiling in a cellular model of DYT1 dystonia. *Neuroscience* 164: 563-572.
2. Sato, H., et al. 2012. Thalamus-derived molecules promote survival and dendritic growth of developing cortical neurons. *J. Neurosci.* 32: 15388-15402.
3. Busse, S., et al. 2012. Reduced density of hypothalamic VGF-immunoreactive neurons in schizophrenia: a potential link to impaired growth factor signaling and energy homeostasis. *Eur. Arch. Psychiatry Clin. Neurosci.* 262: 365-374.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **VGF (B-8): sc-365397** or **VGF (B-6): sc-515482**, our highly recommended monoclonal alternatives to VGF (D-20).