

VGF (R-15): sc-10383

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 (human) mapping to 7q22.1; Vgf (mouse) mapping to 5 G2.

SOURCE

VGF (R-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-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-10383 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

VGF (R-15) is recommended for detection of VGF of mouse, rat and human 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 (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

VGF (R-15) is also recommended for detection of VGF in additional species, including equine and bovine.

Suitable for use as control antibody for VGF siRNA (h): sc-42328, VGF siRNA (m): sc-42329, VGF shRNA Plasmid (h): sc-42328-SH, VGF shRNA Plasmid (m): sc-42329-SH, VGF shRNA (h) Lentiviral Particles: sc-42328-V and VGF shRNA (m) Lentiviral Particles: sc-42329-V.

Molecular Weight of VGF: 90 kDa.

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

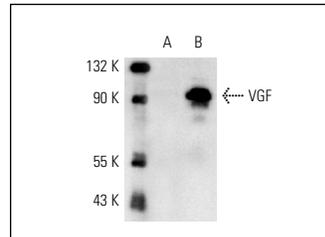
RESEARCH USE

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

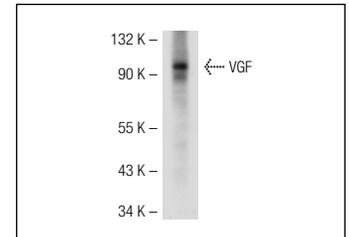
STORAGE

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

DATA



VGF (R-15): sc-10383. Western blot analysis of VGF expression in whole cell lysates prepared from untreated (A) and NGF-treated (B) PC-12 cells.



VGF (R-15): sc-10383. Western blot analysis of VGF expression in NGF-treated PC-12 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Alder, J., et al. 2003. Brain-derived neurotrophic factor-induced gene expression reveals novel actions of VGF in hippocampal synaptic plasticity. *J. Neurosci.* 23: 10800-10808.
2. Cerchia, L., et al. 2005. Neutralizing aptamers from whole-cell SELEX inhibit the RET receptor tyrosine kinase. *PLoS Biol.* 3: e123.
3. Cerchia, L., et al. 2006. An autocrine loop involving ret and glial cell-derived neurotrophic factor mediates retinoic acid-induced neuroblastoma cell differentiation. *Mol. Cancer Res.* 4: 481-488.
4. Zhao, Z., et al. 2008. VGF is a novel biomarker associated with muscle weakness in amyotrophic lateral sclerosis (ALS), with a potential role in disease pathogenesis. *Int. J. Med. Sci.* 5: 92-99.
5. Esposito, C.L., et al. 2008. A cross-talk between TrkB and Ret tyrosine kinases receptors mediates neuroblastoma cells differentiation. *PLoS ONE* 3: e1643.
6. Shimazawa, M., et al. 2010. An inducer of VGF protects cells against ER stress-induced cell death and prolongs survival in the mutant SOD1 animal models of familial ALS. *PLoS ONE* 5: e15307.
7. 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.

PROTOCOLS

See our web site at 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 (R-15).