SANTA CRUZ BIOTECHNOLOGY, INC.

VGF (B-6): sc-515482

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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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.
3. Mahata, M., et al. 1993. Messenger RNA levels of chromogranin B, secretogranin II, and VGF in rat brain after AF64A-induced septohippocampal cholinergic lesions. J. Neurochem. 61: 1648-1656.
4. van den Pol, A.N., et al. 1994. VGF expression in the brain. J. Comp. Neurol. 347: 455-469.
5. Lombardo, A., et al. 1995. A developmentally regulated nerve growth factor-induced gene, VGF, is expressed in geniculocortical afferents during synaptogenesis. Neuroscience 65: 997-1008.
6. Wisor, J.P., et al. 1997. Regulation of the VGF gene in the golden hamster suprachiasmatic nucleus by light and by the circadian clock. J. Comp. Neurol. 378: 229-238.
7. Snyder, S.E., et al. 1998. Expression of VGF mRNA in the adult rat central nervous system. J. Comp. Neurol. 394: 91-105.
8. Hahm, S., et al. 1999. Targeted deletion of the VGF gene indicates that the encoded secretory peptide precursor plays a novel role in the regulation of energy balance. Neuron 23: 537-548.

CHROMOSOMAL LOCATION

Genetic locus: VGF (human) mapping to 7q22.1; Vgf (mouse) mapping to 5 G2.

SOURCE

VGF (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 591-610 at the C-terminus of VGF of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515482 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

VGF (B-6) is recommended for detection of VGF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for VGF siRNA (h): sc-42328, VGF siRNA (m): sc-42329, VGF siRNA (r): sc-72031, VGF shRNA Plasmid (h): sc-42328-SH, VGF shRNA Plasmid (m): sc-42329-SH, VGF shRNA Plasmid (r): sc-72031-SH, VGF shRNA (h) Lentiviral Particles: sc-42328-V, VGF shRNA (m) Lentiviral Particles: sc-42329-V and VGF shRNA (r) Lentiviral Particles: sc-72031-V.

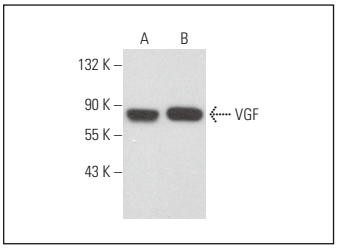
Molecular Weight of VGF: 90 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, SH-SY5Y cell lysate: sc-3812 or human brain extract: sc-364375.

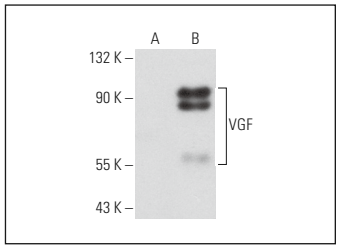
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



VGF (B-6): sc-515482. Western blot analysis of VGF expression in SH-SY5Y whole cell lysate (**A**) and human brain tissue extract (**B**).



VGF (B-6): sc-515482. Western blot analysis of VGF expression in untreated PC-12 (**A**) and NGF-treated PC-12 (**B**) whole cell lysates.

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.