

VGF Antibody

Catalog # ASC10695

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	O15240
Other Accession	NP_003369 , 17136078
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	67258
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	VGF antibody can be used for detection of VGF by Western blot at 0.5 - 1 μ g/mL. Antibody can also be used for immunohistochemistry starting at 5 μ g/mL. For immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	7425
Other Names	Neurosecretory protein VGF, Neuroendocrine regulatory peptide-1, NERP-1, Neuroendocrine regulatory peptide-2, NERP-2, Antimicrobial peptide VGF[554-577], VGF
Target/Specificity	VGF;
Reconstitution & Storage	VGF antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	VGF Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	VGF
Function	[Neurosecretory protein VGF]: Secreted polyprotein that is packaged and proteolytically processed by prohormone convertases PCSK1 and PCSK2 in a cell-type-specific manner (By similarity). VGF and peptides derived from its processing play many roles in neurogenesis and neuroplasticity associated with learning, memory, depression and chronic pain (By similarity).
Cellular Location	[Neurosecretory protein VGF]: Secreted. Cytoplasmic vesicle, secretory vesicle. Note=Stored in secretory vesicles and then secreted, NERP peptides colocalize

with vasopressin in the storage granules of hypothalamus

Tissue Location

Central and peripheral nervous systems, synthesized exclusively in neuronal and neuroendocrine cells

Background

VGF Antibody: VGF was initially identified as a rapidly regulated gene product in nerve growth factor-treated PC12 cells. This protein is synthesized in neurons in the central and peripheral nervous system as well as in the pituitary, adrenal medulla, endocrine cells of the stomach, and pancreatic beta cells. VGF is thought to be involved in organism energy balance and regulation of homeostasis as mice lacking this gene show deficits in these areas. More recent results suggest that VGF is upregulated by brain-derived neurotrophic factor (BDNF) and can stimulate the proliferation of hippocampal progenitor cells and produce antidepressant-like behavioral effects, suggesting that this pathway may be a suitable target for therapeutic treatments.

References

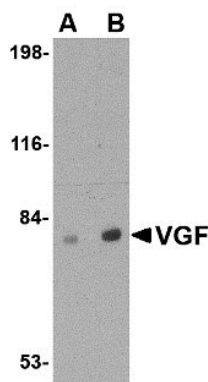
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Possenti R, Eldridge JD, Paterson BM, et al. A protein induced by NGF in PC12 cells is stored in secretory vesicles and released through the regulatory pathway. *EMBO J.* 1989; 8:2217-23.

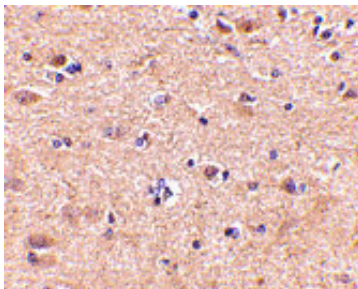
Hahm S, Mizuno TM, Wu TJ, et al. Targeted deletion of the Vgf gene indicates that the encoded secretory peptide precursor plays a novel role in the regulation of energy balance. *Neuron* 1999; 23:537-48.

Thakker-Varia S, Krol JJ, Nettleton J, et al. The neuropeptide VGF produces antidepressant-like behavioral effects and enhances proliferation in the hippocampus. *J. Neurosci.* 2007; 27:12156-67.

Images

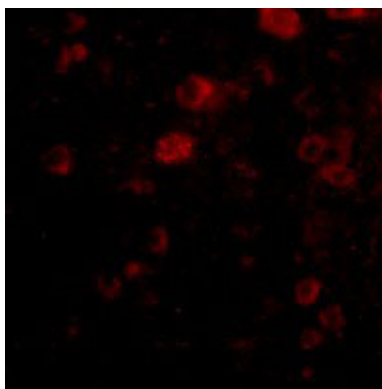


Western blot analysis of VGF in human brain tissue lysate with VGF antibody at (A) 0.5 and (B) 1 $\mu\text{g/mL}$.



Immunohistochemistry of VGF in human brain with VGF antibody at 5 $\mu\text{g/mL}$.

Immunofluorescence of VGF in Human Brain cells with VGF antibody at 20 $\mu\text{g/mL}$.



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