

VGAT (D-18): sc-49574

BACKGROUND

Synaptic transmission involves the controlled exocytosis of vesicles containing specific neurotransmitters. Usually, neurotransmitters are synthesized in the cytoplasm of the cell and must be transported into synaptic vesicles for release. The vesicular GABA transporter (VGAT) is responsible for loading γ -aminobutyric acid (GABA), an inhibitory neurotransmitter, from neuronal cytoplasm into synaptic vesicles and is expressed only in the nerve endings of inhibitory neurons that contain GABA and/or glycine. During neocortical development, VGAT expression barely precedes the maturation of inhibitory synaptogenesis, suggesting that it may contribute to the development of neocortical GABAergic circuitry. VGAT may also play a role in epileptogenesis and the recovery mechanisms that occur after a spontaneous seizure.

REFERENCES

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2. Conti, F., et al. 2005. Heterogeneity of axon terminals expressing VGLUT1 in the cerebral neocortex. *Arch. Ital. Biol.* 143: 127-132.
3. End, K., et al. 2005. Receptors and sites of synthesis and storage of γ -aminobutyric acid in human pituitary glands and in growth hormone adenomas. *Am. J. Clin. Pathol.* 124: 550-558.
4. Gerstein, M., et al. 2005. Remodeling of H hypoxia and magnesium sulfate load: immunohistochemical study. *Exp. Neurol.* 196: 18-29.
5. Oh, W.J., et al. 2005. The mouse vesicular inhibitory amino acid transporter gene: expression during embryogenesis, analysis of its core promoter in neural stem cells and a reconsideration of its alternate splicing. *Gene* 351: 39-49.
6. Vemuganti R. 2005. Decreased expression of vesicular GABA transporter, but not vesicular glutamate, acetylcholine and monoamine transporters in rat brain following focal ischemia. *Neurochem. Int.* 47:136-142.
7. Zink, M. and Spanagel, R. 2005. Ethanol induces GAD67 and VGAT in slice cultures of newborn rat cerebral cortex. *Neuroreport* 16: 377-380.
8. Bogen, I.L., et al. 2006. Absence of Synapsin I and II is accompanied by decreases in vesicular transport of specific neurotransmitters. *J. Neurochem.* 96: 1458-1466.
9. Frahm, C., et al. 2006. Stable expression of the vesicular GABA transporter following photothrombotic infarct in rat brain. *Neuroscience* 140: 865-877.

CHROMOSOMAL LOCATION

Genetic locus: SLC32A1 (human) mapping to 20q11.23; Slc32a1 (mouse) mapping to 2 H1.

SOURCE

VGAT (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of VGAT of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49574 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

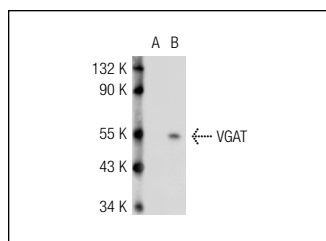
VGAT (D-18) is recommended for detection of Vesicular inhibitory amino acid transporter (VGAT) of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (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).

Suitable for use as control antibody for VGAT siRNA (h): sc-61782, VGAT siRNA (m): sc-61783, VGAT shRNA Plasmid (h): sc-61782-SH, VGAT shRNA Plasmid (m): sc-61783-SH, VGAT shRNA (h) Lentiviral Particles: sc-61782-V and VGAT shRNA (m) Lentiviral Particles: sc-61783-V.

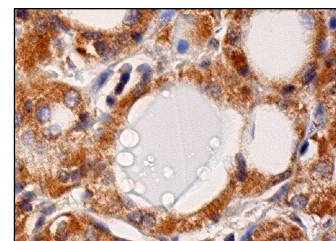
Molecular Weight of VGAT: 57 kDa.

Positive Controls: VGAT (h): 293T Lysate: sc-116499.

DATA



VGAT (D-18): sc-49574. Western blot analysis of VGAT expression in non-transfected: sc-117752 (A) and human VGAT transfected: sc-116499 (B) 293T whole cell lysates.



VGAT (D-18): sc-49574. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **VGAT (F-2): sc-393373**, our highly recommended monoclonal alternative to VGAT (D-18).