

VACHT (H-160): sc-15315

BACKGROUND

Neurotransmission depends on the regulated exocytotic release of chemical transmitter molecules. This requires the packaging of these substances into the specialized secretory vesicles of neurons and neuroendocrine cells, a process mediated by specific vesicular transporters. The family of genes encoding the vesicular transporters of monoamines (VMAT 1 and VMAT 2) and acetylcholine (VACHT) have been cloned and functionally characterized. The sequence of these integral membrane proteins predicts twelve transmembrane domains and weak homology to a class of bacterial antibiotic resistance proteins. The vesicular transport of neurotransmitter molecules has been shown to be an active ATP- and proton dependent transport mechanism.

REFERENCES

1. Roghani, A., et al. 1994. Molecular cloning of a putative vesicular transporter for acetylcholine. *Proc. Natl. Acad. Sci. USA* 91: 10620-10624.
2. Henry, J.P., et al. 1994. Biochemistry and molecular biology of the vesicular monoamine transporter from chromaffin granules. *J. Exp. Biol.* 196: 251-262.
3. Haigh, J.R., et al. 1994. Acetylcholine active transport by rat brain synaptic vesicles. *Neuroreport* 5: 773-776.
4. Yelin, R., et al. 1995. The pharmacological profile of the vesicular monoamine transporter resembles that of multidrug transporters. *FEBS Letts.* 377: 201-207.
5. Varoqui, H., et al. 1996. Active transport of acetylcholine by the human vesicular acetylcholine transporter. *J. Biol. Chem.* 271: 27229-27232.
6. Varoqui, H., et al. 1997. Vesicular neurotransmitter transporters. Potential sites for the regulation of synaptic function. *Mol. Neurobiol.* 15: 165-191.
7. Reimer, R.J., et al. 1998. Vesicular neurotransmitter transport and the presynaptic regulation of quantal size. *Curr. Opin. Neurobiol.* 8: 405-412.

CHROMOSOMAL LOCATION

Genetic locus: SLC18A3 (human) mapping to 10q11.23; Slc18a3 (mouse) mapping to 14 B.

SOURCE

VACHT (H-160) is a rabbit polyclonal antibody raised against amino acids 251-410 mapping near the C-terminus of VACHT of human origin.

PRODUCT

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

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.

APPLICATIONS

VACHT (H-160) is recommended for detection of VACHT 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), 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).

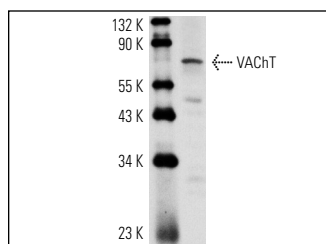
VACHT (H-160) is also recommended for detection of VACHT in additional species, including bovine.

Suitable for use as control antibody for VACHT siRNA (h): sc-36803, VACHT siRNA (m): sc-36804, VACHT shRNA Plasmid (h): sc-36803-SH, VACHT shRNA Plasmid (m): sc-36804-SH, VACHT shRNA (h) Lentiviral Particles: sc-36803-V and VACHT shRNA (m) Lentiviral Particles: sc-36804-V.

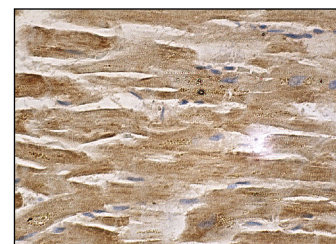
Molecular Weight of VACHT: 55/70 kDa.

Positive Controls: Mouse brain extract: sc-2253, mouse cerebellum extract: sc-2403 or SK-N-MC cell lysate: sc-2237.

DATA



VACHT (H-160): sc-15315. Western blot analysis of VACHT expression in SK-N-MC whole cell lysate.



VACHT (H-160): sc-15315. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

1. Ogura, T., et al. 2007. Immuno-localization of vesicular acetylcholine transporter in mouse taste cells and adjacent nerve fibers: indication of acetylcholine release. *Cell Tissue Res.* 330: 17-28.
2. Jaafari, N., et al. 2008. Qualitative and quantitative analysis of tachykinin NK2 receptors in chemically defined human colonic neuronal pathways. *J. Comp. Neurol.* 507: 1542-1558.

RESEARCH USE

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