SANTA CRUZ BIOTECHNOLOGY, INC.

VAChT (N-19): sc-7717

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

VAChT (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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.

Blocking peptide available for competition studies, sc-7717 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

VAChT (N-19) 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

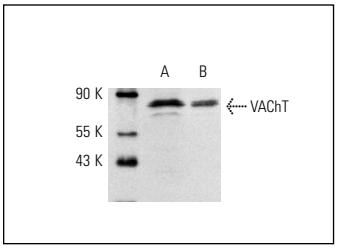
RESEARCH USE

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



VAChT (N-19): sc-7717. Western blot analysis of VAChT expression in mouse brain (**A**) and mouse cerebellum (**B**) extracts.

SELECT PRODUCT CITATIONS

1. Creighton, S.M., et al. 2004. Functional evidence for nitrergic neurotransmission in a human clitoral corpus cavernosum: a case study. Int. J. Impot. Res. 16: 319-324.
2. Konakci, K.Z., et al. 2005. Palisade endings in extraocular muscles of the monkey are immunoreactive for choline acetyltransferase and vesicular acetylcholine transporter. Invest. Ophthalmol. Vis. Sci. 46: 4548-4554.
3. Zago, W.M., et al. 2006. Nicotinic activity stabilizes convergence of nicotinic and GABAergic synapses on filopodia of hippocampal interneurons. Mol. Cell. Neurosci. 31: 549-559.
4. Tsutsumi, T., et al. 2007. Vesicular acetylcholine transporter-immunoreactive axon terminals enriched in the pontine nuclei of the mouse. Neuroscience 146: 1869-1878.
5. Clausen, N., et al. 2008. How to optimize autonomic nerve preservation in total mesorectal excision: clinical topography and morphology of pelvic nerves and fasciae. World J. Surg. 32: 1768-1775.
6. Bourdeaut, F., et al. 2009. Cholinergic switch associated with morphological differentiation in neuroblastoma. J. Pathol. 219: 463-472.
7. Issa, A.N., et al. 2010. Neuregulin-1 at synapses on phrenic motoneurons. J. Comp. Neurol. 518: 4213-4225.
8. Rana, O.R., et al. 2010. Acetylcholine as an age-dependent non-neuronal source in the heart. Auton. Neurosci. 156: 82-89.
9. Sadegh, M.K., et al. 2011. Biomechanical properties and innervation of the female caveolin-1-deficient detrusor. Br. J. Pharmacol. 162: 1156-1170.

PROTOCOLS

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