

VMAT 1 (N-19): sc-7719

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 Lett.* 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC18A1 (human) mapping to 8p21.3.

SOURCE

VMAT 1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of VMAT 1 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-7719 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

VMAT 1 (N-19) is recommended for detection of VMAT 1 of 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 VMAT 1 siRNA (h): sc-42324, VMAT 1 shRNA Plasmid (h): sc-42324-SH and VMAT 1 shRNA (h) Lentiviral Particles: sc-42324-V.

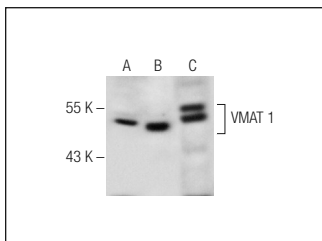
Molecular Weight of VMAT 1: 55 kDa.

Positive Controls: AML-193 whole cell lysate: sc-364182, SW-13 cell lysate: sc-24778 or A549 cell lysate: sc-2413.

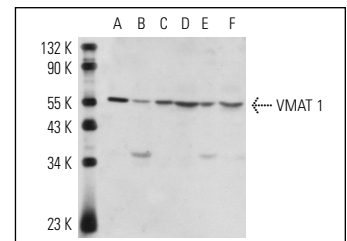
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



VMAT 1 (N-19): sc-7719. Western blot analysis of VMAT 1 expression in AML-193 (A), A549 (B) and SW-13 (C) whole cell lysates.



VMAT 1 (N-19): sc-7719. Western blot analysis of VMAT 1 expression in SW-13 (A), Caki-1 (B), ALL-SIL (C), AML-193 (D), MIA PaCa-2 (E) and CCRF-CEM (F) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Essand, M., et al. 2005. Identification and characterization of a novel splicing variant of vesicular monoamine transporter 1. *J. Mol. Endocrinol.* 35: 489-501.

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Try **VMAT 1 (G-12): sc-166391**, our highly recommended monoclonal alternative to VMAT 1 (N-19).