

# VMAT 2 (N-19): sc-7722



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.
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.
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: SLC18A2 (human) mapping to 10q25.3.

## SOURCE

VMAT 2 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of VMAT 2 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-7722 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.

## APPLICATIONS

VMAT 2 (N-19) is recommended for detection of VMAT 2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

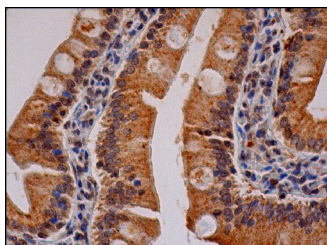
Suitable for use as control antibody for VMAT 2 siRNA (h): sc-36824, VMAT 2 shRNA Plasmid (h): sc-36824-SH and VMAT 2 shRNA (h) Lentiviral Particles: sc-36824-V.

Molecular Weight of VMAT 2: 63 kDa.

## 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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



VMAT 2 (N-19): sc7722. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Lohoff, F.W., et al. 2006. Variations in the vesicular monoamine transporter 1 gene (VMAT 1/SLC18A1) are associated with bipolar disorder. *Neuropsychopharmacology* 31: 2739-2747.

## RESEARCH USE

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

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Try **VMAT 2 (H-12): sc-374079** or **VMAT 2 (D-4): sc-390285**, our highly recommended monoclonal alternatives to VMAT 2 (N-19).