

VMAT 1 (H-100): sc-15313

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: SLC18A1 (human) mapping to 8p21.3; Slc18a1 (mouse) mapping to 8 B3.3.

SOURCE

VMAT 1 (H-100) is a rabbit polyclonal antibody raised against amino acids 44-143 mapping near 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.

RESEARCH USE

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

APPLICATIONS

VMAT 1 (H-100) is recommended for detection of VMAT 1 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 VMAT 1 siRNA (h): sc-42324, VMAT 1 siRNA (m): sc-42325, VMAT 1 shRNA Plasmid (h): sc-42324-SH, VMAT 1 shRNA Plasmid (m): sc-42325-SH, VMAT 1 shRNA (h) Lentiviral Particles: sc-42324-V and VMAT 1 shRNA (m) Lentiviral Particles: sc-42325-V.

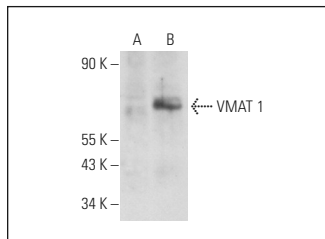
Molecular Weight of VMAT 1: 55 kDa.

Positive Controls: VMAT 1 (h): 293T Lysate: sc-171549, Caki-1 cell lysate: sc-2224 or MIA PaCa-2 cell lysate: sc-2285.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



VMAT 1 (H-100): sc-15313. Western blot analysis of VMAT 1 expression in non-transfected: sc-117752 (A) and human VMAT 1 transfected: sc-171549 (B) 293T 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.
2. Vikman, S., et al. 2005. Gene expression in midgut carcinoid tumors: potential targets for immunotherapy. *Acta Oncol.* 44: 32-40.
3. Lohoff, F.W., et al. 2006. Variations in the vesicular monoamine transporter 1 gene (VMAT 1/SLC18A1) are associated with bipolar I disorder. *Neuropsychopharmacology* 31: 2739-2747.
4. Talaei, F., et al. 2012. Induction of VMAT-1 and TPH-1 expression induces vesicular accumulation of serotonin and protects cells and tissue from cooling/rewarming injury. *PLoS ONE* 7: e30400.

STORAGE

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

MONOS
Satisfaction
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Try **VMAT 1 (G-12): sc-166391**, our highly recommended monoclonal alternative to VMAT 1 (H-100).