SANTA CRUZ BIOTECHNOLOGY, INC.

VMAT 2 (C-20): sc-7721

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: SLC18A2 (human) mapping to 10q25.3; Slc18a2 (mouse) mapping to 19 D3.

SOURCE

VMAT 2 (C-20) is available as either goat (sc-7721) or rabbit (sc-7721-R) polyclonal affinity purified antibody raised against a peptide mapping at the C-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-7721 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

VMAT 2 (C-20) is recommended for detection of VMAT 2 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).

VMAT 2 (C-20) is also recommended for detection of VMAT 2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for VMAT 2 siRNA (h): sc-36824, VMAT 2 siRNA (m): sc-36825, VMAT 2 shRNA Plasmid (h): sc-36824-SH, VMAT 2 shRNA Plasmid (m): sc-36825-SH, VMAT 2 shRNA (h) Lentiviral Particles: sc-36824-V and VMAT 2 shRNA (m) Lentiviral Particles: sc-36825-V.

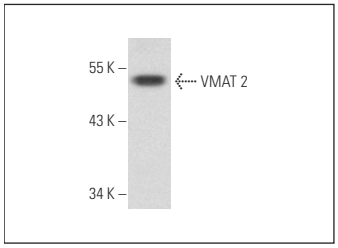
Molecular Weight of VMAT 2: 63 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409 or rat brain extract: sc-2392.

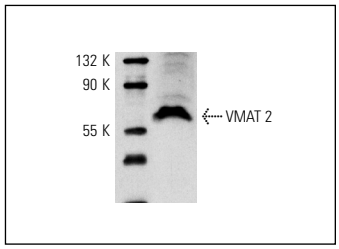
STORAGE

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

DATA



VMAT 2 (C-20)-R: sc-7721-R. Western blot analysis of VMAT 2 expression in IMR-32 whole cell lysate.



VMAT 2 (C-20): sc-7721. Western blot analysis of VMAT 2 expression in rat brain extract.

SELECT PRODUCT CITATIONS

1. Amenta, F., et al. 2001. Identification of dopamine plasma membrane and vesicular transporters in human peripheral blood lymphocytes. J. Neuroimmunol. 117: 133-142.
2. Headley, D.B., et al. 2007. Different subcellular distributions of the vesicular monoamine transporter, VMAT2, in subclasses of sympathetic neurons. Brain Res. 1129: 156-160.
3. 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.
4. Egaña, LA., et al. 2009. Physical and functional interaction between the dopamine transporter and the synaptic vesicle protein synaptogyrin-3. J. Neurosci. 29: 4592-4604.
5. Requena, D.F., et al. 2009. The molecular chaperone Hsc70 interacts with the vesicular monoamine transporter-2. J. Neurochem. 110: 581-594.
6. Tapia-González, S., et al. 2011. Dopamine and α-synuclein dysfunction in Smad3 null mice. Mol. Neurodegener. 6: 72.
7. Gorbatyuk, M.S., et al. 2012. Glucose regulated protein 78 diminishes α-synuclein neurotoxicity in a rat model of Parkinson disease. Mol. Ther. 20: 1327-1337.
8. Eastham, J., et al. 2015. The expression of β3-adrenoceptor and muscarinic type 3 receptor immuno-reactivity in the major pelvic ganglion of the rat. Naunyn Schmiedebergs Arch. Pharmacol. 388: 695-708.

RESEARCH USE

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