

PRODUCT INFORMATION

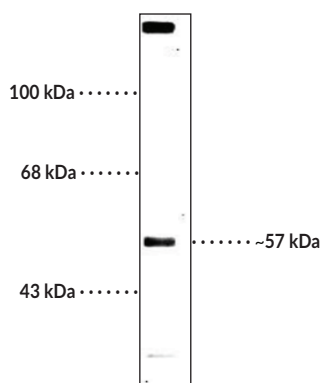
VMAT2 (C-Term) Polyclonal Antibody

Item No. 29300

Overview and Properties

Contents:	This vial contains 100 µl of affinity-purified pooled sheep polyclonal antibody.
Immunogen:	Peptide from the intracellular C-terminal region of human VMAT2 conjugated to KLH
Species Reactivity:	(+) Human, rat
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	10 mM HEPES, pH 7.5, with 150 mM sodium chloride, 100 µg/ml BSA, and 50% glycerol
Host:	Sheep
Applications:	Western blot (WB); the recommended starting dilution is 1:1,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Image



WB of rat striatal lysate showing specific immunolabeling of the ~57 kDa VMAT2 protein.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Vesicular monoamine transporter 2 (VMAT2) is a member of the SLC18 family of transporters that is encoded by *SLC18A2* in humans.¹ VMAT2 is expressed in monoaminergic neurons of the central and peripheral nervous systems and localizes to synaptic vesicles where it transports cytosolic dopamine (DA), serotonin (5-HT), norepinephrine (NE), and histamine into synaptic vesicles, regulating cytoplasmic levels and exocytosis of monoamine neurotransmitters. It consists of 12 transmembrane helices, which contain a luminal loop subject to N-glycosylation, as well as cytoplasmic N- and C-terminal domains that regulate monoamine transport and VMAT2 localization, respectively.² Homozygous knockout of *Slc18a2* completely eliminates brain DA, 5-HT, and NE and induces postnatal lethality in mice.³ *Slc18a2*^{+/-} mice exhibit increased apomorphine-, cocaine-, amphetamine-, or ethanol-induced horizontal locomotor activity compared to wild-type mice. *Slc18a2* overexpression decreases immobility time in the forced swim test and marble burying in mice.⁴ *Slc18a2* overexpression also reduces the loss of dopaminergic neurons in a mouse model of Parkinson's disease induced by MPTP. SNPs in *SLC18A2* have been found in individuals with bipolar disorder, schizophrenia, drug addiction, and Parkinson's disease.¹ Cayman's VMAT2 (C-Term) Polyclonal Antibody can be used for Western blot (WB) applications. The antibody recognizes VMAT2 at approximately 57 kDa from human and rat samples.

References

1. Eiden, L.E. and Weihe, E. VMAT2: A dynamic regulator of brain monoaminergic neuronal function interacting with drugs of abuse. *Ann. N.Y. Acad. Sci.* **1216**, 86-98 (2011).
2. Yaffe, D., Radestock, S., Shuster, Y., *et al.* Identification of molecular hinge points mediating alternating access in the vesicular monoamine transporter VMAT2. *Proc. Natl. Acad. Sci. USA* **110**(15), E1332-E1341 (2013).
3. Wang, Y.M., Gainetdinov, R.R., Fumagalli, F., *et al.* Knockout of the vesicular monoamine transporter 2 gene results in neonatal death and supersensitivity to cocaine and amphetamine. *Neuron* **19**(6), 1285-1296 (1997).
4. Lohr, K.M., Bernstein, A.I., Stout, K.A., *et al.* Increased vesicular monoamine transporter enhances dopamine release and opposes Parkinson disease-related neurodegeneration in vivo. *Proc. Natl. Acad. Sci. USA* **111**(27), 9977-9982 (2014).

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