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VMAT2 Rabbit pAb

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Catalog # AP59293

Product Information

Application	WB
Primary Accession	Q05940
Reactivity	Mouse, Rat
Predicted	Human, Chicken, Dog, Pig, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	55713
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human VMAT2
Epitope Specificity	421-514/514
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasmic vesicle membrane.
SIMILARITY	Belongs to the major facilitator superfamily. Vesicular transporter family.
SUBUNIT	Interacts with SLC6A3.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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.

Additional Information

Gene ID	6571
Other Names	Synaptic vesicular amine transporter, Solute carrier family 18 member 2, Vesicular amine transporter 2, VAT2, Vesicular monoamine transporter 2, SLC18A2, SVMT, VMAT2
Dilution	WB=1:500-2000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When

reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	SLC18A2
Synonyms	SVMT, VMAT2
Function	Electrogenic antiporter that exchanges one cationic monoamine with two intravesicular protons across the membrane of secretory and synaptic vesicles. Uses the electrochemical proton gradient established by the V-type proton-pump ATPase to accumulate high concentrations of monoamines inside the vesicles prior to their release via exocytosis. Transports a variety of catecholamines such as dopamine, adrenaline and noradrenaline, histamine, and indolamines such as serotonin (PubMed:23363473, PubMed:37914936, PubMed:38081299, PubMed:38517752, PubMed:8643547). Regulates the transvesicular monoaminergic gradient that determines the quantal size. Mediates somatodendritic dopamine release in hippocampal neurons, likely as part of a regulated secretory pathway that integrates retrograde synaptic signals (By similarity). Acts as a primary transporter for striatal dopamine loading ensuring impulse-dependent release of dopamine at the synaptic cleft (By similarity). Responsible for histamine and serotonin storage and subsequent corelease from mast cell granules (PubMed:8860238).
Cellular Location	Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane {ECO:0000250|UniProtKB:Q01827}; Multi-pass membrane protein. Cytoplasmic vesicle, secretory vesicle membrane {ECO:0000250|UniProtKB:Q01827}; Multi-pass membrane protein. Cell projection, axon {ECO:0000250|UniProtKB:Q01827} Cell projection, dendrite {ECO:0000250|UniProtKB:Q01827}. Note=Sorted to large dense core granules in neuroendocrine cells, presumably at the level of the trans-Golgi network. In neurons it is predominantly detected in somatodendritic tubulovesicular membranes, a distinct population of secretory vesicles that undergo calcium-dependent exocytosis in axons and dendrites upon depolarization. Localized at synaptic vesicles in axons. {ECO:0000250|UniProtKB:Q01827}
Tissue Location	Expressed in neuronal and neuroendocrine tissues. Detected in central and peripheral nervous system in particular in axonal and dendritic processes in dopaminergic cells of substantia nigra, histaminergic neuronal cell bodies of substantia nigra and tuberomammillary nucleus, in ganglion cells of sympathetic glia and in peripheral sympathetic nerve terminals in stomach and duodenum (at protein level). Highly expressed in chromaffin cells of the adrenal medulla and histamine-storing enterochromaffin-like cells of oxyntic mucosa (at protein level).

Background

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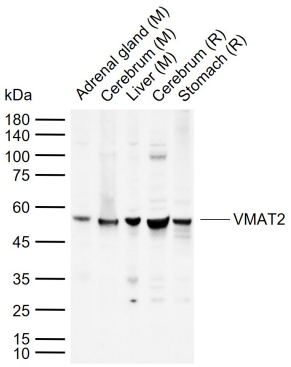
Images



Sample:
Lane 1: Mouse Adrenal gland tissue lysates
Lane 2: Mouse Cerebrum tissue lysates
Lane 3: Mouse Liver tissue lysates
Lane 4: Rat Cerebrum tissue lysates
Lane 5: Rat Stomach tissue lysates
Primary: Anti-VMAT2 (AP59293) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 57 kDa
Observed band size: 55 kDa