

VMAT2 Rabbit pAb

VMAT2 Rabbit pAb Catalog # AP59293

Product Information

Application WB Primary Accession Q05940

Reactivity Pig, Mouse, Chicken, Dog

HostRabbitClonalityPolyclonalCalculated MW55713Physical StateLiquid

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

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:<u>8860238</u>).

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

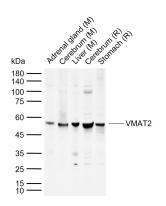
mucosa (at protein level).

Background

Cellular Location

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.

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

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.