

VMAT2 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP59293

Specification

VMAT2 Polyclonal Antibody - Product Information

Application WB, IHC-P, IHC-F, IF, ICC, E

Primary Accession <u>Q05940</u>

Reactivity Rat, Pig, Dog, Bovine Host Rabbit

Clonality Polyclonal Calculated MW 57 KDa Physical State Liquid

Immunogen KLH conjugated synthetic peptide derived

from human VMAT2

Epitope Specificity 421-514/514

Isotype IgG
Purity

Buffer 0.01M TBS (pH7.4) with 1% BSA, 0.02%

SUBCELLULAR LOCATION
SIMILARITY

Proclin300 and 50% Glycerol.

Cytoplasmic vesicle membrane.

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

affinity purified by Protein A

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.

VMAT2 Polyclonal Antibody - Additional Information

Gene ID 6571

Other Names

Synaptic vesicular amine transporter, Monoamine transporter, Solute carrier family 18 member 2, Vesicular amine transporter 2, VAT2, SLC18A2, SVMT, VMAT2

Dilution

WB~~1:1000<br \><span class</pre>



="dilution_IHC-P">IHC-P~~N/A<br \>IHC-F~~N/A<br \>IF~~1:50~200<br \>ICC~~N/A<br \>E~~N/A

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.

VMAT2 Polyclonal 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: 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).

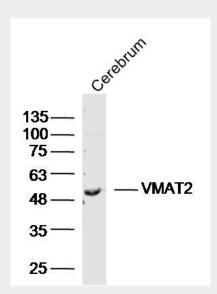
VMAT2 Polyclonal Antibody - Protocols



Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- <u>Immunohistochemistry</u>
- <u>Immunofluorescence</u>
- <u>Immunoprecipitation</u>
- Flow Cytomety
- Cell Culture

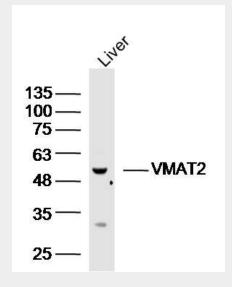
VMAT2 Polyclonal Antibody - Images



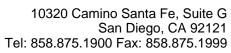
Sample: Cerebrum (Mouse) Lysate at 40 ug Primary: Anti-VMAT2 (bs-9565R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 57 kD Observed band size: 57 kD



Sample: Liver (Mouse) Lysate at 40 ug





Primary: Anti-VMAT2 (bs-9565R) at 1/300 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 57 kD Observed band size: 57 kD