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Vesicular Acetylcholine Transporter Rabbit pAb

Catalog # AP96504

Product Information

Application	WB
Primary Accession	Q16572
Other Accession	Q16572
Reactivity	Rat, Human, Mouse
Predicted	Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56903
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human VAT
Epitope Specificity	201-300/532
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the major facilitator superfamily.Vesicular transporter family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Vesicular Acetylcholine Transporter (VAChT), (~70kD protein), belongs to the family of vesicular monoamine transporters(VMATs), which include VMAT1 and VMAT2 and the C.elegans putative ACh transporter unc-17. Members of this family function to concentrate neurotransmitters into synaptic vesicles through exchange of protons for neurotransmitters. VAChT is a functional transporter for the neurotransmitter acetylcholine(ACh). ACh is synthesized in the cytoplasm by choline acetyl transferase (ChAT) and transported by VAChT into synaptic vesicles where it is stored until released. After release from presynaptic nerve terminals ACh is hydrolyzed by extracellular ACh-esterases(AChE) to choline and acetate. VAChT mRNA is expressed in all known major cholinergic neurons in the central and peripheral nervous system. VAChT is abundantly expressed in the CNS and is mainly localized in small synaptic vesicles in cholinergic nerve terminals. VAChT provides a specific marker for cholinergic neurons for the study of cholinergic transmission in experimental models, in Alzheimer's disease and other nervous system disorders.

Additional Information

Gene ID	6572
Other Names	CMS21; VACHT; VAT; rVAT; VACHT_HUMAN; SLC18A3; Solute carrier family 18 member 3; VACHT_MOUSE; VACHT_RAT; solute carrier family 18 member A3; solute carrier family 18 (vesicular acetylcholine transporter), member 3
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	SLC18A3
Synonyms	VACHT
Function	Electrogenic antiporter that exchanges one cholinergic neurotransmitter, acetylcholine or choline, with two intravesicular protons across the membrane of synaptic vesicles. Uses the electrochemical proton gradient established by the V-type proton-pump ATPase to store neurotransmitters inside the vesicles prior to their release via exocytosis (By similarity) (PubMed:20225888, PubMed:8910293). Determines cholinergic vesicular quantal size at presynaptic nerve terminals in developing neuro-muscular junctions with an impact on motor neuron differentiation and innervation pattern (By similarity). Part of forebrain cholinergic system, regulates hippocampal synapse transmissions that underlie spatial memory formation (By similarity). Can transport serotonin.
Cellular Location	Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane {ECO:0000250|UniProtKB:Q62666}; Multi-pass membrane protein
Tissue Location	Peripheral and central cholinergic nervous systems.

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