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VGLUT2 Rabbit pAb

Catalog # AP98138

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9P2U8
Other Accession	Q9P2U8
Reactivity	Rat
Predicted	Pig, Human, Mouse, Chicken, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	64392
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human VGLUT2
Epitope Specificity	10-110/582
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. Sodium/anion cotransporter family. VGLUT subfamily
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The ATP-dependent, chloride-sensitive vesicular glutamate transporters (VGLUT) include BNPI (VGLUT1), VGLUT2 (DNPI) and VGLUT3. The brain expresses BNPI (brain specific Na+-dependent inorganic phosphate (Pi) cotransporter) and VGLUT2 in a complementary fashion. The telencephalic regions express BNPI, whereas the lower brainstem and diencephalic regions express VLGUT2. Rat pinealocytes express both BNPI and VGLUT2. The striatum, hippocampus, cerebral cortex and raphe nuclei express VGLUT3 in a small number of neurons. Pancreatic a and b cells express BNPI and VGLUT2 in response to glucose concentrations. Human VGLUT3 shares a 72% sequence homology with VLGUT2 and BNPI.

Additional Information

Gene ID	57084
Other Names	DNPI; VGLUT2; 2900073D12Rik; VGLU2_HUMAN; SLC17A6; Differentiation-associated BNPI; Differentiation-associated Na(+)-dependent inorganic phosphate cotransporter; Solute carrier family 17 member 6; VGLU2_MOUSE; VGLU2_RAT; solute carrier family 17 (sodium-dependent inorganic phosphate cotransporter), member 6; solute carrier family 17 (vesicular glutamate transporter), member 6; vesicular glutamate transporter 2; differentiation-associated Na-dependent inorganic phosphate cotransporter
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

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	SLC17A6 (HGNC:16703)
Function	Multifunctional transporter that transports L-glutamate as well as multiple ions such as chloride, proton, potassium, sodium and phosphate (PubMed:11698620, PubMed:33440152). At the synaptic vesicle membrane, mainly functions as a uniporter which transports preferentially L-glutamate but also, phosphate from the cytoplasm into synaptic vesicles at presynaptic nerve terminals of excitatory neural cells (PubMed:11698620). The L-glutamate or phosphate uniporter activity is electrogenic and is driven by the proton electrochemical gradient, mainly by the electrical gradient established by the vacuolar H(+)-ATPase across the synaptic vesicle membrane (PubMed:11698620). In addition, functions as a chloride channel that allows the chloride permeation through the synaptic vesicle membrane therefore affects the proton electrochemical gradient and promotes synaptic vesicles acidification (By similarity). Moreover, functions as a vesicular K(+)/H(+) antiport allowing to maintain the electrical gradient and to decrease chemical gradient and therefore sustain vesicular glutamate uptake (By similarity). The vesicular H(+)/H(+) antiport activity is electroneutral (By similarity). At the plasma membrane, following exocytosis, functions as a symporter of Na(+) and phosphate from the extracellular space to the cytoplasm allowing synaptic phosphate homeostasis regulation (Probable) (PubMed:10820226). The symporter activity is driven by an inside negative membrane potential and is electrogenic (Probable). Also involved in the regulation of retinal hyaloid vessel regression during postnatal development (By similarity). May also play a role in the endocrine glutamatergic system of other tissues such as pineal gland and pancreas (By similarity).
Cellular Location	Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane; Multi-pass membrane protein. Synapse, synaptosome {ECO:0000250|UniProtKB:Q8BLE7}. Cell membrane; Multi-pass membrane protein
Tissue Location	Predominantly expressed in adult brain (PubMed:10820226). Expressed in amygdala, caudate nucleus, cerebral cortex, frontal lobe, hippocampus, medulla, occipital lobe, putamen, spinal cord, substantia nigra, subthalamic nucleus, temporal lobe and thalamus (PubMed:10820226).

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