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MOUSE VGLU2 Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9300b

Product Information

Application	WB, IHC-P, E
Primary Accession	Q8BLE7
Other Accession	Q9JI12, Q9P2U8, A6QLI1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB24331
Calculated MW	64561
Antigen Region	507-535

Additional Information

Gene ID	140919
Other Names	Vesicular glutamate transporter 2, VGluT2, Differentiation-associated BNPI, Differentiation-associated Na(+)-dependent inorganic phosphate cotransporter, Solute carrier family 17 member 6, Slc17a6, Dnpi, Vglut2
Target/Specificity	This MOUSE VGLU2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 507-535 amino acids from the C-terminal region of mouse VGLU2.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MOUSE VGLU2 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	Slc17a6 {ECO:0000312|MGI:MGI:2156052}
Synonyms	Dnpi, Vglut2

Function	Multifunctional transporter that transports L-glutamate as well as multiple ions such as chloride, proton, potassium, sodium and phosphate (PubMed:11432869, PubMed:17108179, PubMed:25433636, 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:11432869, PubMed:17108179). 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:11432869). In addition, functions as a chloride channel that allows a 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 (PubMed:25433636). The vesicular H(+)/H(+) antiport activity is electroneutral (PubMed:25433636). 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 (PubMed:33440152). The symporter activity is driven by an inside negative membrane potential and is electrogenic (PubMed:33440152). Also involved in the regulation of retinal hyaloid vessel regression during postnatal development (PubMed:30936473). 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. Cell membrane; Multi-pass membrane protein
Tissue Location	Expressed in brain. Expressed in hippocampal neurons (at protein level).

Background

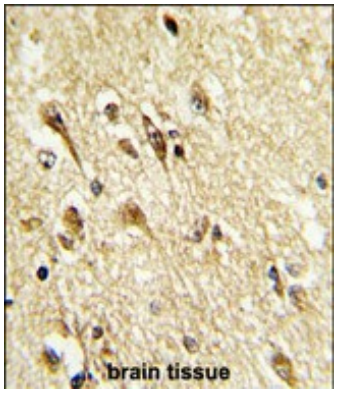
MOUSE VGLU2 mediates the uptake of glutamate into synaptic vesicles at presynaptic nerve terminals of excitatory neural cells. This protein may also mediate the transport of inorganic phosphate.

References

Birgner,C., et.al., Proc. Natl. Acad. Sci. U.S.A. 107 (1), 389-394 (2010)
Renier,N., et.al., PLoS Biol. 8 (3), E1000325 (2010)
Rose,M.F., et.al., Proc. Natl. Acad. Sci. U.S.A. 106 (52), 22462-22467 (2009)

Images

Formalin-fixed and paraffin-embedded human brain reacted with MOUSE VGLU2 Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



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