

# VGLUT1/BNP1 Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP54412

## Product Information

<b>Application</b>	WB, IHC-P, IHC-F, IF, E
<b>Primary Accession</b>	<a href="#">Q9P2U7</a>
<b>Reactivity</b>	Rat, Pig, Dog, Bovine
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Calculated MW</b>	61613
<b>Physical State</b>	Liquid
<b>Immunogen</b>	KLH conjugated synthetic peptide derived from human VGLUT1/BNP1
<b>Epitope Specificity</b>	301-400/560
<b>Isotype</b>	IgG
<b>Purity</b>	affinity purified by Protein A
<b>Buffer</b>	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
<b>SUBCELLULAR LOCATION</b>	Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane. Membrane; Multi-pass membrane protein (Potential). Cell junction, synapse, synaptosome.
<b>SIMILARITY</b>	Belongs to the major facilitator superfamily.Sodium/anion cotransporter family. VGLUT subfamily.
<b>Important Note</b>	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
<b>Background Descriptions</b>	The protein encoded by this gene is a vesicle-bound, sodium-dependent phosphate transporter that is specifically expressed in the neuron-rich regions of the brain. It is preferentially associated with the membranes of synaptic vesicles and functions in glutamate transport. The protein shares 82% identity with the differentiation-associated Na-dependent inorganic phosphate cotransporter and they appear to form a distinct class within the Na <sup>+</sup> /Pi cotransporter family. [provided by RefSeq, Jul 2008]

## Additional Information

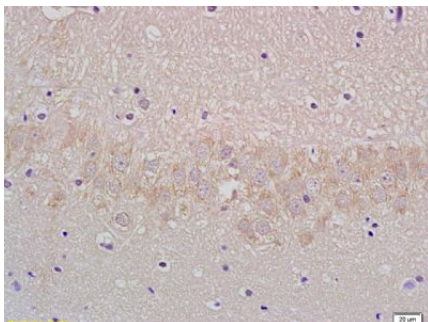
<b>Gene ID</b>	57030
<b>Other Names</b>	Vesicular glutamate transporter 1, VGluT1, Brain-specific Na(+)-dependent inorganic phosphate cotransporter, Solute carrier family 17 member 7, SLC17A7, BNPI, VGLUT1
<b>Target/Specificity</b>	Expressed in several regions of the brain including amygdala, cerebellum, cerebral cortex, hippocampus, frontal lobe, medulla, occipital lobe, putamen and temporal lobe.
<b>Dilution</b>	WB=1:500-1000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000

<b>Format</b>	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glycerol
<b>Storage</b>	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

<b>Name</b>	SLC17A7 ( <a href="#">HGNC:16704</a> )
<b>Function</b>	Multifunctional transporter that transports L-glutamate as well as multiple ions such as chloride, proton, potassium, sodium and phosphate (PubMed: <a href="#">10820226</a> ). At the synaptic vesicle membrane, mainly functions as an uniporter which transports preferentially L-glutamate but also phosphate from the cytoplasm into synaptic vesicles at presynaptic nerve terminals of excitatory neural cells (By similarity). 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 (By similarity). In addition, functions as a chloride channel that allows a chloride permeation through the synaptic vesicle membrane that affects the proton electrochemical gradient and promotes synaptic vesicles acidification (By similarity). Moreover, may function as a K(+)/H(+) antiport allowing to maintain the electrical gradient and to decrease chemical gradient and therefore sustain vesicular glutamate uptake (By similarity). The vesicular K(+)/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 (PubMed: <a href="#">10820226</a> ). The symporter activity is driven by an inside negative membrane potential and is electrogenic (By similarity). Is necessary for synaptic signaling of visual-evoked responses from photoreceptors (By similarity).
<b>Cellular Location</b>	Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane {ECO:0000250 UniProtKB:Q3TXX4}. Cell membrane; Multi-pass membrane protein. Synapse, synaptosome {ECO:0000250 UniProtKB:Q3TXX4}
<b>Tissue Location</b>	Expressed in several regions of the brain including amygdala, cerebellum, cerebral cortex, hippocampus, frontal lobe, medulla, occipital lobe, putamen and temporal lobe

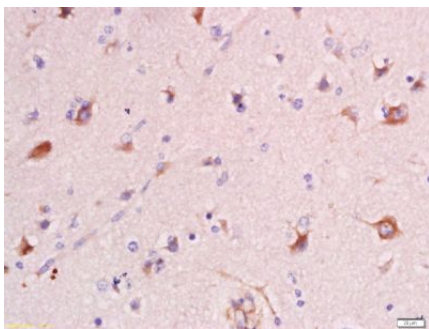
## Images



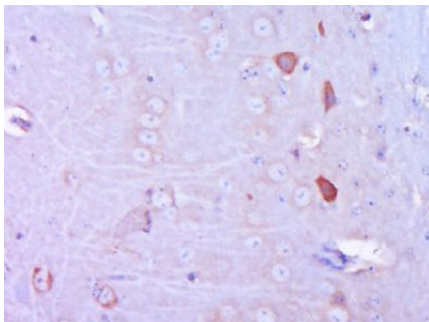
Tissue/cell: rat brain tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;

Antigen retrieval: citrate buffer ( 0.01M, pH 6.0 ), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37°C for 20 min;

Incubation: Anti-VGLUT1/BNP1 Polyclonal Antibody, Unconjugated(AP54412) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Tissue/cell: human gliomas tissue; 4%  
 Paraformaldehyde-fixed and paraffin-embedded;  
 Antigen retrieval: citrate buffer ( 0.01M, pH 6.0 ), Boiling  
 bathing for 15min; Block endogenous peroxidase by 3%  
 Hydrogen peroxide for 30min; Blocking buffer (normal  
 goat serum,C-0005) at 37°C for 20 min;  
 Incubation: Anti-VGLUT1/BNP1 Polyclonal Antibody,  
 Unconjugated(AP54412) 1:200, overnight at 4°C, followed  
 by conjugation to the secondary antibody(SP-0023) and  
 DAB(C-0010) staining



Paraformaldehyde-fixed, paraffin embedded (Mouse  
 brain); Antigen retrieval by boiling in sodium citrate  
 buffer (pH6.0) for 15min; Block endogenous peroxidase  
 by 3% hydrogen peroxide for 20 minutes; Blocking buffer  
 (normal goat serum) at 37°C for 30min; Antibody  
 incubation with (VGLU1) Polyclonal Antibody,  
 Unconjugated (AP54412) at 1:400 overnight at 4°C,  
 followed by operating according to SP Kit(Rabbit)  
 (sp-0023) instructions and DAB staining.

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