

VGLUT1/BNP1 Polyclonal Antibody
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54412**Specification**

VGLUT1/BNP1 Polyclonal Antibody - Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q9P2U7
Reactivity	Rat, Pig, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	62 KDa
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human VGLUT1/BNP1
Epitope Specificity	301-400/560
Isotype	IgG
Purity	
affinity purified by Protein A	
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane. Membrane; Multi-pass membrane protein (Potential). Cell junction, synapse, synaptosome.
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 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⁺/Pi cotransporter family. [provided by RefSeq, Jul 2008]

VGLUT1/BNP1 Polyclonal Antibody - Additional Information**Gene ID** 57030**Other Names**

Vesicular glutamate transporter 1, VGluT1, Brain-specific Na(+)-dependent inorganic phosphate cotransporter, Solute carrier family 17 member 7, SLC17A7, BNPI, VGLUT1

Target/Specificity

Expressed in several regions of the brain including amygdala, cerebellum, cerebral cortex, hippocampus, frontal lobe, medulla, occipital lobe, putamen and temporal lobe.

Dilution

WB~1:1000
IHC-P~N/A
IHC-F~N/A
IF~1:50~200
E~N/A

Format

0.01M TBS(pH7.4), 0.09% (W/V) sodium azide and 50% Glyce

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.

VGLUT1/BNP1 Polyclonal Antibody - Protein Information

Name SLC17A7 ([HGNC:16704](#))

Function

Multifunctional transporter that transports L-glutamate as well as multiple ions such as chloride, proton, potassium, sodium and phosphate (PubMed:[10820226](http://www.uniprot.org/citations/10820226)). 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 (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:[10820226](http://www.uniprot.org/citations/10820226)). 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).

Cellular Location

Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane {ECO:0000250|UniProtKB:Q3TXX4}. Cell membrane; Multi-pass membrane protein. Synapse, synaptosome {ECO:0000250|UniProtKB:Q3TXX4}

Tissue Location

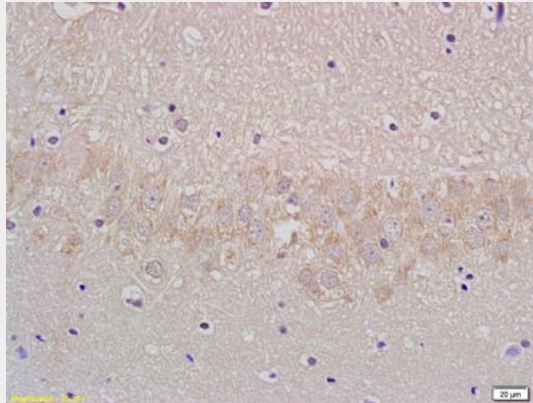
Expressed in several regions of the brain including amygdala, cerebellum, cerebral cortex, hippocampus, frontal lobe, medulla, occipital lobe, putamen and temporal lobe

VGLUT1/BNP1 Polyclonal Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

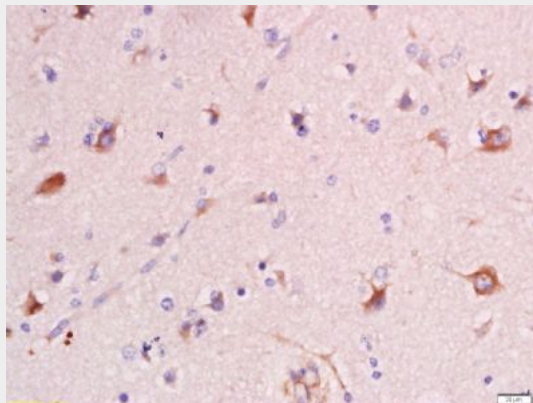
VGLUT1/BNP1 Polyclonal Antibody - Images



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;

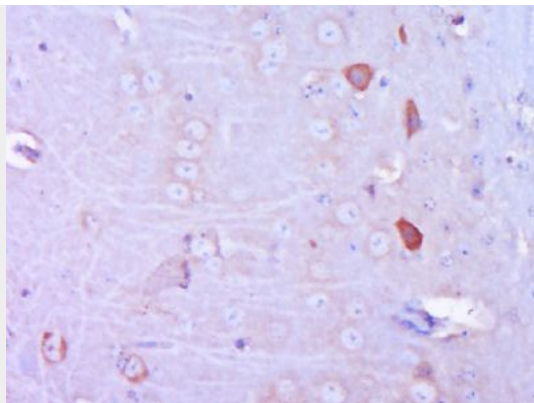
Incubation: Anti-VGLUT1/BNP1 Polyclonal Antibody, Unconjugated(bs-11167R) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



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(bs-11167R) 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 (bs-11167R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructions and DAB staining.