10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

SLC17A7 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP13120b

Specification

SLC17A7 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q9P2U7

SLC17A7 Antibody (C-term) Blocking Peptide - 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
The synthetic peptide sequence used to generate the antibody AP13120b was selected from the C-term region of SLC17A7. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

SLC17A7 Antibody (C-term) Blocking Peptide - 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). 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: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

SLC17A7 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

SLC17A7 Antibody (C-term) Blocking Peptide - Images

SLC17A7 Antibody (C-term) Blocking Peptide - Background

The protein encoded by this gene is a vesicle-bound,sodium-dependent phosphate transporter that is specificallyexpressed in the neuron-rich regions of the brain. It ispreferentially associated with the membranes of synaptic vesiclesand functions in glutamate transport. The protein shares 82%identity with the differentiation-associated Na-dependent inorganicphosphate cotransporter and they appear to form a distinct classwithin the Na+/Pi cotransporter family.

SLC17A7 Antibody (C-term) Blocking Peptide - References

Shen, Y.C., et al. Schizophr. Res. 115 (2-3), 254-260 (2009) :Uezato, A., et al. Bipolar Disord 11(7):711-725(2009)Gratacos, M., et al. Am. J. Med. Genet. B Neuropsychiatr. Genet. 150B (6), 808-816 (2009) :Need, A.C., et al. Eur. J. Hum. Genet. 17(7):946-957(2009)Oni-Orisan, A., et al. Biol. Psychiatry 63(8):766-775(2008)