

SLC5A7 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP16408b**Specification**

SLC5A7 Antibody (C-term) Blocking Peptide - Product InformationPrimary Accession [O9GZV3](#)**SLC5A7 Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 60482**Other Names**

High affinity choline transporter 1, Hemicholinium-3-sensitive choline transporter, CHT, Solute carrier family 5 member 7, SLC5A7, CHT1

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.

SLC5A7 Antibody (C-term) Blocking Peptide - Protein Information**Name** SLC5A7 ([HGNC:14025](#))**Synonyms** CHT1**Function**

High-affinity Na(+)-coupled choline transmembrane symporter (PubMed:11027560, PubMed:11068039, PubMed:12969261, PubMed:17005849, PubMed:23141292, PubMed:23132865, PubMed:12237312, PubMed:27569547). Functions as an electrogenic, voltage-dependent transporter with variable charge/choline stoichiometry (PubMed:17005849). Choline uptake and choline-induced current is also Cl(-)-dependent where Cl(-) is likely a regulatory ion rather than cotransported ion (PubMed:11068039, PubMed:17005849, PubMed:17005849, PubMed:17005849).

href="http://www.uniprot.org/citations/12237312" target="_blank">12237312). Plays a critical role in acetylcholine (ACh) synthesis by taking up the substrate choline from the synaptic cleft into the presynaptic nerve terminals after neurotransmitter release (PubMed:27569547). SLC5A7/CHT1-mediated choline high-affinity transport in cholinergic neurons is the rate-limiting step for production of ACh, thereby facilitating communication by subsequent action potentials (PubMed:11027560). Localized predominantly in presynaptic terminal intracellular organelles, and translocated to the plasma membrane in active form in response to neuronal activity (PubMed:12969261, PubMed:15953352).

Cellular Location

Presynaptic cell membrane; Multi-pass membrane protein. Cell projection, axon {ECO:0000250|UniProtKB:Q8BGY9} Early endosome membrane; Multi-pass membrane protein. Cytoplasmic vesicle, secretory vesicle, synaptic vesicle membrane; Multi-pass membrane protein. Note=Localized at the neuromuscular junction (PubMed:27569547). Localization at the plasma membrane is transient due to the rapid endocytosis of SLC5A7/CHT1 via the clathrin-mediated pathway, where it localizes to early endosomes (PubMed:12969261, PubMed:15953352). Also localized to synaptic vesicles where it is likely mobilized to the cell surface by exocytosis (PubMed:12969261)

Tissue Location

Expressed in putamen, spinal cord and medulla (PubMed:11027560, PubMed:11068039). Expressed in cholinergic neurons (PubMed:27569547).

SLC5A7 Antibody (C-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

SLC5A7 Antibody (C-term) Blocking Peptide - Images

SLC5A7 Antibody (C-term) Blocking Peptide - Background

Choline is a direct precursor of acetylcholine (ACh), a neurotransmitter of the central and peripheral nervous system that regulates a variety of autonomic, cognitive, and motor functions. SLC5A7 is a Na(+)- and Cl(-)- dependent high-affinity transporter that mediates the uptake of choline for acetylcholine synthesis in cholinergic neurons (Apparsundaram et al., 2000 [PubMed:11027560]).

SLC5A7 Antibody (C-term) Blocking Peptide - References

Harrington, A.M., et al. Cell Tissue Res. 341(1):33-48(2010) Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :Neumann, S.A., et al. Biol. Psychiatry 60(10):1155-1162(2006) Iwamoto, H., et al. J. Neurosci. 26(39):9851-9859(2006) Hillier, L.W., et al. Nature 434(7034):724-731(2005)