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SLC6A4 Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP17361c

Specification

SLC6A4 Antibody (Center) Blocking Peptide - Product Information

Primary Accession P31645

SLC6A4 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 6532

Other Names
Sodium-dependent serotonin transporter, 5HT transporter, 5HTT, Solute carrier family 6 member 4, SLC6A4, HTT, SERT

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.

SLC6A4 Antibody (Center) Blocking Peptide - Protein Information

Name SLC6A4

Synonyms HTT, SERT

Function
Serotonin transporter that cotransports serotonin with one Na(+) ion in exchange for one K(+) ion and possibly one proton in an overall electroneutral transport cycle. Transports serotonin across the plasma membrane from the extracellular compartment to the cytosol thus limiting serotonin intercellular signaling (PubMed:27756841, PubMed:34851672, PubMed:21730057, PubMed:10407194, PubMed:27049939, PubMed:12869649). Essential for serotonin homeostasis in the central nervous system. In the developing somatosensory cortex, acts in glutamatergic neurons to control serotonin uptake and its trophic functions accounting for proper spatial organization of cortical neurons and elaboration of sensory circuits. In the mature cortex, acts primarily in brainstem raphe neurons to mediate serotonin uptake from the synaptic cleft back into the pre-synaptic terminal thus terminating serotonin signaling at the synapse (By similarity). Modulates mucosal

serotonin levels in the gastrointestinal tract through uptake and clearance of serotonin in enterocytes. Required for enteric neurogenesis and gastrointestinal reflexes (By similarity). Regulates blood serotonin levels by ensuring rapid high affinity uptake of serotonin from plasma to platelets, where it is further stored in dense granules via vesicular monoamine transporters and then released upon stimulation (PubMed:17506858, PubMed:18317590). Mechanistically, the transport cycle starts with an outward-open conformation having Na1(+) and Cl(-) sites occupied. The binding of a second extracellular Na2(+) ion and serotonin substrate leads to structural changes to outward- occluded to inward-occluded to inward-open, where the Na2(+) ion and serotonin are released into the cytosol. Binding of intracellular K(+) ion induces conformational transitions to inward-occluded to outward- open and completes the cycle by releasing K(+) possibly together with a proton bound to Asp-98 into the extracellular compartment. Na1(+) and Cl(-) ions remain bound throughout the transport cycle (PubMed:27756841, PubMed:34851672, PubMed:21730057, PubMed:10407194, PubMed:27049939, PubMed:12869649). Additionally, displays serotonin- induced channel-like conductance for monovalent cations, mainly Na(+) ions. The channel activity is uncoupled from the transport cycle and may contribute to the membrane resting potential or excitability (By similarity).

Cellular Location
Cell membrane; Multi-pass membrane protein. Endomembrane system; Multi-pass membrane protein. Endosome membrane; Multi- pass membrane protein. Synapse {ECO:0000250|UniProtKB:Q60857}. Cell junction, focal adhesion {ECO:0000250|UniProtKB:Q60857}. Cell projection, neuron projection {ECO:0000250|UniProtKB:Q60857}. Note=Could be part of recycling endosomes (PubMed:16870614). Density of transporter molecules on the plasma membrane is itself regulated by STX1A (By similarity). Density of transporter molecules on the plasma membrane is also regulated by serotonin (PubMed:17506858). Density of transporter molecules seems to be modulated by ITGAV:ITGB3 (By similarity) {ECO:0000250|UniProtKB:P31652, ECO:0000250|UniProtKB:Q60857, ECO:0000269|PubMed:16870614, ECO:0000269|PubMed:17506858}

Tissue Location
Expressed in platelets (at protein level).

SLC6A4 Antibody (Center) Blocking Peptide - Protocols

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

- Blocking Peptides

SLC6A4 Antibody (Center) Blocking Peptide - Images

SLC6A4 Antibody (Center) Blocking Peptide - Background

This gene encodes an integral membrane protein thattransports the neurotransmitter serotonin from synaptic spaces intopresynaptic neurons. The encoded protein terminates the action ofserotonin and recycles it in a sodium-dependent manner. Thisprotein is a target of psychomotor stimulants, such as amphetaminesand cocaine, and is a member of the sodium:neurotransmittersymporter family. A repeat length polymorphism in the promoter ofthis gene has been shown to affect the rate of serotonin uptake andmay play a role in sudden infant death syndrome, aggressivebehavior in Alzheimer disease patients, anddepression-susceptibility in

people experiencing emotional trauma.

SLC6A4 Antibody (Center) Blocking Peptide - References

Blaya, C., et al. Neurosci. Lett. 485(1):11-15(2010)Schillani, G., et al. Anticancer Res. 30(9):3823-3826(2010)Muhonen, L.H., et al. Psychiatry Res (2010) In press :Jijun, L., et al. Neurol India 58(4):523-529(2010)Devlin, A.M., et al. PLoS ONE 5 (8), E12201 (2010) :