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Anti-SLC6A4 Antibody

Catalog # ABO11018

Product Information

Application	WB, IHC-P
Primary Accession	P31652
Host	Rabbit
Reactivity	Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Sodium-dependent serotonin transporter(SLC6A4) detection. Tested with WB, IHC-P in Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	25553
Other Names	Sodium-dependent serotonin transporter, SERT, 5HT transporter, 5HTT, Solute carrier family 6 member 4, Slc6a4
Calculated MW	70172
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Rat, By Heat Western blot, 0.1-0.5 □g/ml, Rat
Subcellular Localization	Cell membrane; Multi-pass membrane protein. Endomembrane system; Multi-pass membrane protein. Endosome membrane; Multi-pass membrane protein. Translocates from intracellular locations to the plasma membrane. Density of transporter molecules on the plasma membrane is itself regulated by serotonin. function as homooligomeric forms (By similarity). .
Source	Eukaryota
Protein Name	Sodium-dependent serotonin transporter
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the N-terminus of rat SLC6A4 (7-24aa NSQKVLSECKDREDCQEN), different from the related mouse sequence by one amino acid.
Purification	Immunogen affinity purified.

Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

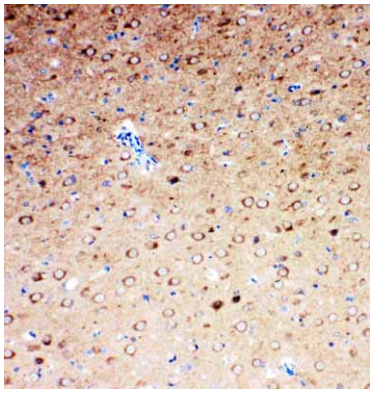
Name	Slc6a4
Function	Serotonin transporter that cotransports serotonin with one Na(+) ion in exchange for one K(+) ion and possibly one proton in an overall electroneutral transport cycle. Transports serotonin across the plasma membrane from the extracellular compartment to the cytosol thus limiting serotonin intercellular signaling (By similarity) (PubMed:10407194, PubMed:10716733, PubMed:15627510, PubMed:1944572, PubMed:1948036, PubMed:21730057, PubMed:8601815). 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. 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 (By similarity). 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 (By similarity) (PubMed:10407194, PubMed:10716733, PubMed:15627510, PubMed:1944572, PubMed:1948036, PubMed:21730057, PubMed:8601815). 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 (PubMed:14642278, PubMed:8968583).
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 (PubMed:11709063). Density of transporter molecules on the plasma membrane is also regulated by serotonin (By similarity). Density of transporter molecules seems to be modulated by ITGAV:ITGB3 (By similarity) {ECO:0000250|UniProtKB:P31645, ECO:0000250|UniProtKB:Q60857, ECO:0000269|PubMed:11709063, ECO:0000269|PubMed:16870614}
Tissue Location	Expressed in the intestinal crypt epithelial cells and myenteric neurons of the

small intestine (at protein level) (PubMed:8601815). Expressed in the brain (PubMed:1944572)

Background

SLC6A4(Solute carrier family 6, member 4), also known as SERT(serotonin transporter), is a monoamine transporter protein. The SLC6A4 gene spans 31 kb and contains 14 exons. This protein integral membrane protein that transports the neurotransmitter serotonin from synaptic spaces into presynaptic neurons. This transport of serotonin by the SERT protein terminates the action of serotonin and recycles it in a sodium-dependent manner. This protein is the target of many antidepressant medications, including those of the SSRI class. It is a member of the sodium:neurotransmitter symporter family. A repeat length polymorphism in the promoter of this gene has been shown to affect the rate of serotonin uptake and may play a role in sudden infant death syndrome, aggressive behavior in Alzheimer disease patients, post-traumatic stress disorder and depression-susceptibility in people experiencing emotional trauma.

Images



Anti-SLC6A4 antibody, ABO11018, IHC(P)IHC(P): Rat Brain Tissue



Anti-SLC6A4 antibody, ABO11018, Western blottingWB: Rat Brain Tissue Lysate

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