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

Anti-SLC6A4 Antibody

Catalog # ABO11017

Product Information

Application	WB
Primary Accession	P31645
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Sodium-dependent serotonin transporter(SLC6A4) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	6532
Other Names	Sodium-dependent serotonin transporter, SERT, 5HT transporter, 5HTT, Solute carrier family 6 member 4, SLC6A4, HTT, SERT
Calculated MW	70325
Application Details	Western blot, 0.1-0.5 □g/ml, Human
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.
Tissue Specificity	Expressed in platelets (at protein level). .
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 human SLC6A4 (7-24aa NSQKVLSECKDREDCQEN).
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.
Sequence Similarities	Belongs to the sodium:neurotransmitter symporter (SNF) (TC 2.A.22) family. SLC6A4 subfamily.

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:10407194, PubMed:12869649, PubMed:21730057, PubMed:27049939, PubMed:27756841, PubMed:34851672). 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:10407194, PubMed:12869649, PubMed:21730057, PubMed:27049939, PubMed:27756841, PubMed:34851672). 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,

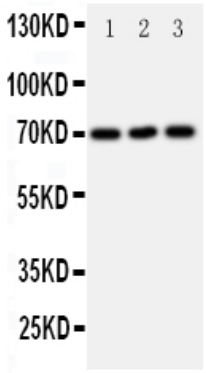
ECO:0000269|PubMed:17506858}

Tissue Location Expressed in platelets (at protein level).

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, ABO11017, Western blottingAll lanes: Anti SLC6A4 (ABO11017) at 0.5ug/mlLane 1: U87 Whole Cell Lysate at 40ugLane 2: HELA Whole Cell Lysate at 40ugLane 3: JURKAT Whole Cell Lysate at 40ugPredicted bind size: 70KDObserved bind size: 70KD

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