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Goat Anti-SLC6A4 / 5HTT / SERT Antibody
Peptide-affinity purified goat antibody
Catalog # AF1999a

Specification

Goat Anti-SLC6A4 / 5HTT / SERT Antibody - Product Information

Application	**WB**
Primary Accession	P31645
Other Accession	NP_001036, 6532
Reactivity	**Human, Rat**
Predicted	**Mouse**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**70325**

Goat Anti-SLC6A4 / 5HTT / SERT Antibody - Additional Information

Gene ID 6532

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

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-SLC6A4 / 5HTT / SERT Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-SLC6A4 / 5HTT / SERT Antibody - 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}

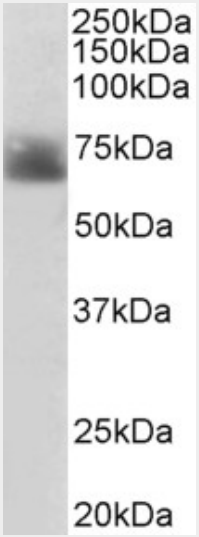
Tissue Location
Expressed in platelets (at protein level).

Goat Anti-SLC6A4 / 5HTT / SERT Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Goat Anti-SLC6A4 / 5HTT / SERT Antibody - Images



AF1999a (2 µg/ml) staining of Human Colon lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.chemiluminescence.

Goat Anti-SLC6A4 / 5HTT / SERT Antibody - Background

This gene encodes an integral membrane protein that transports the neurotransmitter serotonin from synaptic spaces into presynaptic neurons. The encoded protein terminates the action of serotonin and recycles it in a sodium-dependent manner. This protein is a target of psychomotor stimulants, such as amphetamines and cocaine, and 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, and depression-susceptibility in people experiencing emotional trauma.

Goat Anti-SLC6A4 / 5HTT / SERT Antibody - References

Panic disorder and serotonergic genes (SLC6A4, HTR1A and HTR2A): Association and interaction with childhood trauma and parenting. Blaya C, et al. Neurosci Lett, 2010 Sep 10. PMID 20817074.
Serotonin transporter polymorphism as a predictor for escitalopram treatment of major depressive disorder comorbid with alcohol dependence. Muhonen LH, et al. Psychiatry Res, 2010 Aug 26. PMID 20800901.
Evidence for plasticity genotypes in a gene-gene-environment interaction: the TRAILS study. Nederhof E, et al. Genes Brain Behav, 2010 Aug 4. PMID 20738408.
[Interaction effect of serotonin transporter gene and brain-derived neurotrophic factor on the platelet serotonin content in stroke patients] . Zh Nevrol Psikhiatr Im S S Korsakova, 2010. PMID 20738025.
Association between serotonin transporter polymorphisms and problem behavior in adult males

with intellectual disabilities. May ME, et al. Brain Res, 2010 Aug 21. PMID 20735998.