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

Serotonin transporter Rabbit pAb

Serotonin transporter Rabbit pAb
Catalog # AP52188

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P31645
Reactivity	Rat, Mouse
Predicted	Pig, Dog, Human, Chicken, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	70325
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human 5-HTT
Epitope Specificity	401-500/630
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cell membrane; Multi-pass membrane protein. Endomembrane system; Multi-pass membrane protein. Endosome membrane; Multi-pass membrane protein.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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. [provided by RefSeq, Jul 2008].

Additional Information

Gene ID	6532
Other Names	Sodium-dependent serotonin transporter, SERT, 5HT transporter, 5HTT, Solute carrier family 6 member 4, SLC6A4, HTT, SERT
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

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).

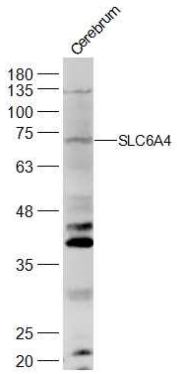
Background

This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

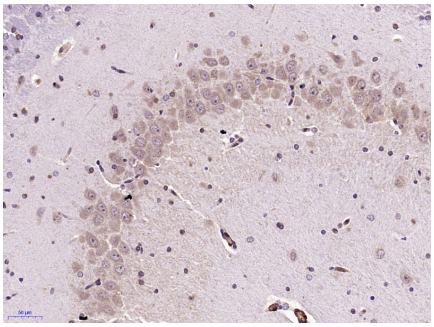
References

Lesch K.P.,et al.J. Neural Transm. 91:67-73(1993).
Ramamoorthy S.,et al.Proc. Natl. Acad. Sci. U.S.A. 90:2542-2546(1993).
Lesch K.P.,et al.J. Neurochem. 60:2319-2322(1993).
Iceta R.,et al.J. Physiol. Pharmacol. 57:119-130(2006).
Bradley C.C.,et al.Submitted (JUN-1997) to the EMBL/GenBank/DDBJ databases.

Images



Sample:
Cerebrum (Mouse) Lysate at 40 ug
Primary: Anti-SLC6A4 (AP52188) at 1/500 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 70 kD
Observed band size: 70 kD



Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by microwave in sodium citrate buffer (pH6.0) ; Block endogenous peroxidase by 3% hydrogen peroxide for 30 minutes; Blocking buffer (3% BSA) at RT for 30min; Antibody incubation with (Serotonin transporter) Polyclonal Antibody, Unconjugated (AP52188) at 1:400 overnight at 4℃, followed by conjugation to the secondary antibody (labeled with HRP)and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.