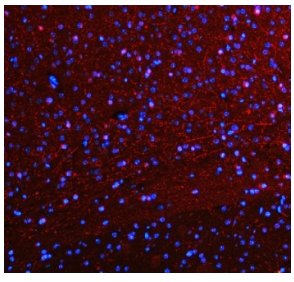
SERT Antibody / Serotonin Reuptake Transporter Antibody (R32066)

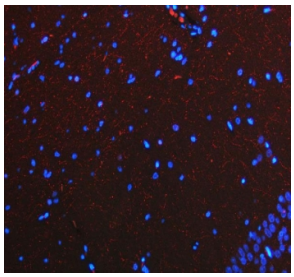
Catalog No.	Formulation	Size
R32066	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

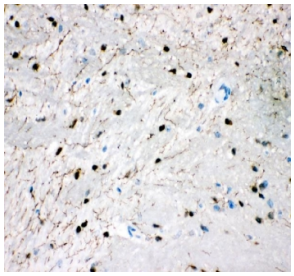
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P31645
Localization	Cell membrane
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml
Limitations	This SERT Antibody / Serotonin Reuptake Transporter Antibody is available for research use only.



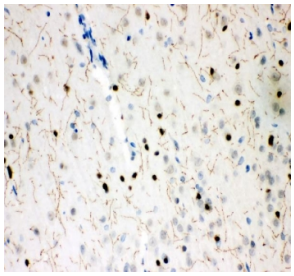
SERT Antibody Mouse Brain IF. Immunofluorescent staining of FFPE mouse brain tissue using SERT Antibody / Serotonin Reuptake Transporter Antibody demonstrates widespread red fluorescence associated with neural processes and neuropil-rich regions throughout the tissue. The staining pattern is consistent with expression of the Serotonin Transporter (SERT/SLC6A4), a membrane-associated protein responsible for serotonin reuptake and regulation of serotonergic neurotransmission. The extensive fibrillar and punctate signal observed within the brain parenchyma is consistent with localization of SERT to serotonergic neuronal projections and synaptic regions involved in neurotransmitter recycling and signal termination. Nuclei are counterstained with DAPI (blue). HIER: steam section in pH 8 EDTA buffer for 20 minutes prior to staining.



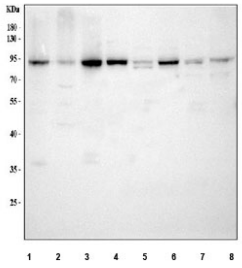
SERT Antibody Rat Brain IF. Immunofluorescent staining of FFPE rat brain tissue using SERT Antibody / Serotonin Reuptake Transporter Antibody demonstrates diffuse red fluorescence distributed throughout neuropil-rich regions and neuronal process networks. The staining pattern is consistent with expression of the Serotonin Transporter (SERT/SLC6A4), a membrane-associated transporter responsible for reuptake of serotonin from synaptic spaces and maintenance of serotonergic neurotransmission. The fine fibrillar signal observed throughout the tissue is characteristic of serotonergic axons and neuronal projections, reflecting the widespread distribution of serotonin signaling pathways within the central nervous system. Nuclei are counterstained with DAPI (blue). HIER: steam section in pH 8 EDTA buffer for 20 minutes prior to staining.



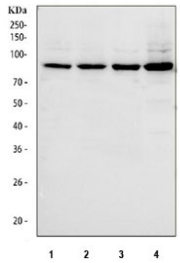
SERT Antibody Mouse Brain IHC. Immunohistochemistry staining of FFPE mouse brain tissue using SERT Antibody / Serotonin Reuptake Transporter Antibody demonstrates fine neuritic and neuropil-associated HRP-DAB brown staining distributed throughout the brain parenchyma. The staining pattern is consistent with expression of the Serotonin Transporter (SERT/SLC6A4), a membrane-associated protein that mediates serotonin reuptake and regulates serotonergic neurotransmission. The delicate fibrillar immunoreactivity highlights neuronal projections and serotonergic fiber networks rather than widespread neuronal cell body staining, consistent with the established localization of SERT within presynaptic axons and synaptic terminals. HIER: boil tissue sections in pH 8 EDTA buffer for 20 minutes and allow to cool before testing.



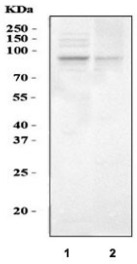
SERT Antibody Rat Brain IHC. Immunohistochemistry staining of FFPE rat brain tissue using SERT Antibody / Serotonin Reuptake Transporter Antibody demonstrates fine neuritic and neuropil-associated HRP-DAB brown staining throughout the brain parenchyma, accompanied by scattered neuronal cell body immunoreactivity. The staining pattern is consistent with expression of the Serotonin Transporter (SERT/SLC6A4), a membrane-associated transporter responsible for serotonin reuptake and maintenance of serotonergic neurotransmission. The extensive network of delicate fiber-like processes highlighted by the antibody is characteristic of serotonergic projections and synaptic regions where SERT regulates extracellular serotonin levels and neurotransmitter recycling. HIER: boil tissue sections in pH 8 EDTA buffer for 20 minutes and allow to cool before testing.



SERT Antibody Multi-Species WB. Western blot analysis of human SH-SY5Y, human U-2 OS, human SW620, human HeLa, rat brain, rat C6, mouse brain, and mouse Neuro-2a lysates using SERT Antibody / Serotonin Reuptake Transporter Antibody demonstrates a predominant immunoreactive band within the 85-95 kDa range across multiple samples. The observed molecular weight is consistent with glycosylated forms of the Serotonin Transporter (SERT/SLC6A4), a membrane-associated neurotransmitter transporter responsible for serotonin reuptake and regulation of serotonergic signaling. SERT is known to undergo extensive N-linked glycosylation, resulting in migration at higher apparent molecular weights than its unmodified core protein. Detection across human, rat, and mouse samples is consistent with the highly conserved nature of serotonergic neurotransmission and serotonin transporter biology. Minor lower molecular weight bands may represent less glycosylated species, degradation products, or alternatively processed forms of the transporter. Expected molecular weight: ~70 kDa (unglycosylated) and ~85-95 kDa (glycosylated).



SERT Antibody Human Cell Line WB. Western blot analysis of human HepG2, Caco-2, A549, and SH-SY5Y cell lysates using SERT Antibody / Serotonin Reuptake Transporter Antibody demonstrates a strong immunoreactive band migrating within the 85-95 kDa range in all samples tested. The observed molecular weight is consistent with the glycosylated form of the Serotonin Transporter (SERT/SLC6A4), a membrane-associated protein responsible for serotonin reuptake and regulation of serotonergic neurotransmission. SERT is known to undergo extensive post-translational glycosylation, resulting in migration at a higher apparent molecular weight than the approximately 70 kDa unglycosylated core protein. The consistent detection of a prominent band across multiple human cell lines supports recognition of SERT and is consistent with the broad physiological importance of serotonin transport in cellular signaling and neurotransmitter regulation. Expected molecular weight: ~70 kDa (unglycosylated) and ~85-95 kDa (glycosylated).



SERT Antibody Testis Tissue WB. Western blot analysis of rat testis and mouse testis tissue lysates using SERT Antibody / Serotonin Reuptake Transporter Antibody demonstrates a predominant immunoreactive band migrating within the 85-95 kDa range. The observed molecular weight is consistent with glycosylated forms of the Serotonin Transporter (SERT/SLC6A4), a membrane-associated transporter responsible for serotonin reuptake and regulation of serotonergic signaling. SERT is known to undergo extensive N-linked glycosylation, resulting in migration at a higher apparent molecular weight than the approximately 70 kDa unglycosylated core protein. Detection of SERT in testicular tissue is consistent with reports demonstrating serotonergic signaling components in reproductive tissues, where serotonin may contribute to regulation of spermatogenesis, cellular communication, and reproductive physiology. Expected molecular weight: ~70 kDa (unglycosylated) and ~85-95 kDa (glycosylated).

Description

SERT Antibody / Serotonin Reuptake Transporter Antibody recognizes the Serotonin Transporter (SERT), also known as Solute Carrier Family 6 Member 4 (SLC6A4), a membrane-associated transporter responsible for the reuptake of serotonin (5-hydroxytryptamine, 5-HT) from the synaptic cleft. SERT belongs to the sodium- and chloride-dependent neurotransmitter transporter family and serves as the principal mechanism for terminating serotonergic signaling following neurotransmitter release. By regulating extracellular serotonin concentrations, SERT plays a critical role in maintaining neurotransmitter homeostasis, synaptic transmission, and neural circuit function. Because of its central role in serotonergic signaling, SERT is one of the most extensively studied proteins in neuroscience and neuropharmacology.

SERT is predominantly expressed on presynaptic serotonergic neurons, where it mediates transporter-dependent uptake of serotonin for intracellular recycling and subsequent neurotransmitter release. Through control of serotonin availability, SERT influences numerous physiological processes including mood regulation, cognition, sleep, appetite, stress responses, and emotional behavior. The transporter serves as the primary molecular target of selective serotonin reuptake inhibitors (SSRIs) and several other classes of neuroactive compounds, making it an important focus of both basic and translational neuroscience research.

Beyond its role in neurotransmitter regulation, SERT contributes to nervous system development and neural circuit formation. Serotonin signaling participates in neuronal differentiation, axonal guidance, synaptogenesis, and developmental patterning of the central nervous system. Consequently, researchers frequently evaluate SERT expression when investigating neurodevelopment, synaptic plasticity, behavioral regulation, and mechanisms governing neuronal communication. Altered serotonin transporter activity has been associated with numerous neurological and psychiatric disorders, further emphasizing its importance as a biological and clinical research target.

SERT expression has also been examined in peripheral tissues where serotonin signaling contributes to physiological regulation beyond the nervous system. Studies have identified roles for serotonin transport in gastrointestinal function,

cardiovascular biology, immune responses, and endocrine regulation. These findings have expanded interest in SERT beyond traditional neuroscience applications and highlighted the broad physiological significance of serotonergic signaling pathways throughout the body.

At NSJ Bioreagents, we provide highly validated antibodies for neuroscience, neuropharmacology, developmental biology, and neurotransmitter signaling research. SERT Antibody / Serotonin Reuptake Transporter Antibody is useful for investigating serotonergic pathways, synaptic transmission, neurotransmitter homeostasis, neural development, and neurobiological disease mechanisms. Continued research into SERT is expanding our understanding of serotonin-dependent signaling networks and their roles in nervous system function, behavior, and human health.

SERT regulates serotonin reuptake and neurotransmitter homeostasis, making it an important target within our Neuroscience Antibodies collection.

Application Notes

Optimal dilution of the SERT Antibody / Serotonin Reuptake Transporter Antibody should be determined by the researcher.

Immunogen

Amino acids DDTRHSIPATTTTLVAELHQGERETWGKK of human SLC6A4/SERT were used as the immunogen for the SERT antibody.

Storage

After reconstitution, the SERT antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Serotonin Transporter Antibody, SLC6A4 Antibody, 5-HT Transporter Antibody, 5-HTT Antibody, Serotonin Reuptake Transporter Antibody, Monoamine Transporter Antibody

References (1)

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