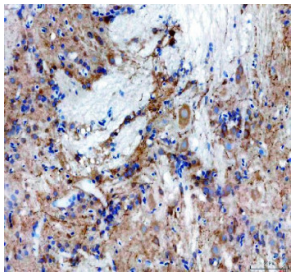
Zebrafish SLC6A4 Antibody / SLC6A4A Antibody (RZ1366)

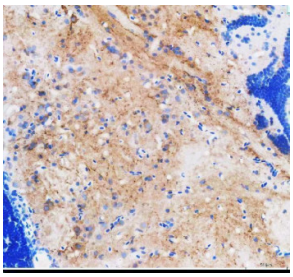
Catalog No.	Formulation	Size
RZ1366	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

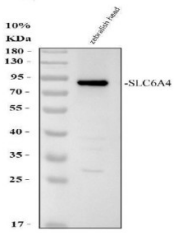
Species Reactivity	Zebrafish
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Lyophilized from a buffered saline solution containing 2% trehalose. Reconstitute with 0.2 ml distilled water to yield a final antibody concentration of 500 ug/ml.
UniProt	Q1WGB5
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml
Limitations	This Zebrafish SLC6A4 Antibody / SLC6A4A Antibody is available for research use only.



Zebrafish SLC6A4 / SLC6A4A Antibody Brain IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue using Zebrafish SLC6A4 Antibody demonstrates distinct cytoplasmic HRP-DAB brown staining within scattered neuronal cell populations and neuropil-associated structures. The staining pattern is consistent with expression of Solute Carrier Family 6 Member 4A (SLC6A4A), a serotonin transporter that regulates serotonergic neurotransmission through reuptake of extracellular serotonin at neuronal synapses. Signal is observed throughout neural tissue compartments associated with neuronal communication and serotonin-dependent signaling pathways. Heat mediated antigen retrieval was performed in EDTA buffer. Primary antibody was incubated overnight at 4Â°C followed by detection using a peroxidase-conjugated goat anti-rabbit secondary antibody and DAB chromogen.



Zebrafish SLC6A4 / SLC6A4A Antibody Serotonergic Brain IHC. Immunohistochemistry staining of FFPE zebrafish brain tissue using Zebrafish SLC6A4 Antibody demonstrates widespread cytoplasmic and neurite-associated HRP-DAB brown staining throughout neural tissue compartments. Signal is observed within neuronal cell populations and surrounding neuropil-rich regions, consistent with expression of Solute Carrier Family 6 Member 4A (SLC6A4A), a serotonin transporter involved in the regulation of serotonergic neurotransmission through reuptake of extracellular serotonin. The staining pattern highlights neural structures associated with serotonin-dependent signaling pathways and neuronal communication. Heat mediated antigen retrieval was performed in EDTA buffer. Primary antibody was incubated overnight at 4Â°C followed by detection using a peroxidase-conjugated goat anti-rabbit secondary antibody and DAB chromogen.



Zebrafish SLC6A4 / SLC6A4A Antibody Serotonin Transporter WB. Western blot analysis of whole zebrafish tissue lysate using Zebrafish SLC6A4 Antibody demonstrates a distinct immunoreactive band at approximately 70-80 kDa, consistent with expression of Solute Carrier Family 6 Member 4A (SLC6A4A). SLC6A4A encodes a serotonin transporter that regulates serotonergic neurotransmission through the reuptake of extracellular serotonin at neuronal synapses. The observed band migrates near the predicted molecular weight of SLC6A4A (~70 kDa) and supports detection of the endogenous protein in zebrafish tissue. Electrophoresis was performed on a 10% SDS-PAGE gel under reducing conditions followed by transfer to a nitrocellulose membrane. Signal was detected using an HRP-conjugated secondary antibody and enhanced chemiluminescent substrate. Predicted molecular weight: ~70 kDa.

Description

Zebrafish SLC6A4 Antibody / SLC6A4A Antibody recognizes SLC6A4A, a member of the solute carrier 6 family that functions as a serotonin transporter responsible for the reuptake of serotonin from extracellular spaces. Following release of serotonin by serotonergic neurons, SLC6A4A mediates transporter-dependent uptake of the neurotransmitter back into cells, thereby regulating serotonin availability, signal duration, and neurotransmitter homeostasis. Through this activity, SLC6A4A serves as a critical component of serotonergic signaling pathways that influence nervous system development, neuronal communication, and behavioral regulation. The highly conserved nature of serotonin transport has established zebrafish as an important model for investigating neurotransmitter biology and nervous system function.

SLC6A4A belongs to a family of sodium- and chloride-dependent neurotransmitter transport proteins that control extracellular neurotransmitter concentrations. By terminating serotonin-mediated signaling events and recycling neurotransmitter molecules for subsequent release, SLC6A4A contributes to maintenance of normal synaptic activity and neural circuit function. Researchers frequently evaluate SLC6A4A expression when studying serotonergic neurotransmission, neural development, behavioral responses, neuropharmacology, and mechanisms governing synaptic communication. Because serotonin signaling influences numerous physiological and developmental processes, SLC6A4A remains an important target in neuroscience research.

During vertebrate development, serotonergic pathways contribute to regulation of neuronal differentiation, neural circuit formation, sensory processing, and behavioral adaptation. Proper control of serotonin transporter activity is essential for maintaining balanced neurotransmitter signaling and normal nervous system function. Investigators commonly monitor SLC6A4A expression in studies examining neurodevelopment, neurotransmitter regulation, behavioral biology, and responses to pharmacological agents that target serotonin transport systems.

Zebrafish provide unique advantages for studying neurotransmitter biology because neural development and behavioral responses can be evaluated in a genetically tractable vertebrate model. Researchers frequently utilize zebrafish to investigate serotonergic signaling, nervous system development, neuroactive compounds, behavioral regulation, and neuronal pathway function. The conservation of serotonin transporter biology between zebrafish and mammals makes

this system particularly valuable for understanding vertebrate neurotransmission and neurobiology.

At NSJ Bioreagents, we provide highly validated antibodies for neuroscience, neuropharmacology, developmental biology, and zebrafish research. Zebrafish SLC6A4 Antibody / SLC6A4A Antibody targets a key regulator of serotonin reuptake and neurotransmitter homeostasis. SLC6A4A expression is widely studied in the context of serotonergic signaling, synaptic transmission, neural development, behavioral biology, and nervous system function. Continued investigation of serotonin transporter biology is expanding our understanding of the molecular mechanisms that govern neurotransmitter regulation and vertebrate neural communication.

Explore our SERT Antibody / Serotonin Reuptake Transporter Antibody page for additional validation data and applications involving serotonergic signaling, neurotransmitter reuptake, and synaptic regulation.

This Zebrafish antibody is part of a broader Zebrafish / Danio rerio antibody panel offered by NSJ Bioreagents.

Application Notes

The optimal working dilution of the Zebrafish SLC6A4 Antibody / SLC6A4A Antibody should be determined empirically by the investigator.

Immunogen

An E.coli-derived Zebrafish SLC6A4A recombinant protein (amino acids M1-V646) was used as the immunogen for the Zebrafish SLC6A4 / SLC6A4A Antibody.

Storage

After reconstitution, the Zebrafish SLC6A4 / SLC6A4A 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

Zebrafish Serotonin Transporter Antibody, Zebrafish SERT Antibody, Zebrafish 5-HT Transporter Antibody, Zebrafish Serotonin Reuptake Transporter Antibody, Zebrafish Neurotransmitter Transporter Antibody, Zebrafish Monoamine Transporter Antibody, Zebrafish Serotonergic Neuron Marker Antibody, Zebrafish Solute Carrier Transporter Antibody