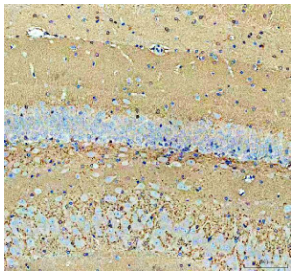
SLC17A7 Antibody / Glutamate Transporter Antibody (FY13490)

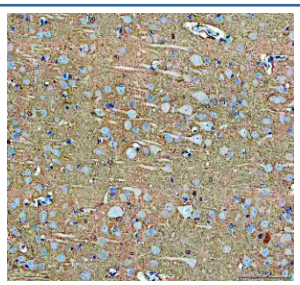
Catalog No.	Formulation	Size
FY13490	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Species Reactivity	Human, Mouse
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9P2U7
Applications	Western Blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml
Limitations	This SLC17A7 Antibody / Glutamate Transporter Antibody is available for research use only.



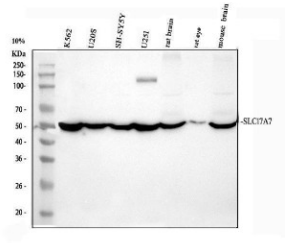
SLC17A7 Antibody Rat Brain IHC. Immunohistochemical staining of FFPE rat brain demonstrated strong SLC17A7 expression in neuronal cell bodies and the neuropil, with particularly prominent staining in the cerebellar molecular and granule cell layers. Heat-induced epitope retrieval was performed in pH8 EDTA buffer before staining with the primary antibody and HRP-DAB detection. The staining pattern is consistent with the localization of this Glutamate Transporter in excitatory glutamatergic neurons and presynaptic terminals responsible for vesicular glutamate loading. This SLC17A7 Antibody, a Glutamate Transporter Antibody, is suitable for immunohistochemical studies of glutamatergic neurotransmission, synaptic vesicle biology and neuronal circuitry.



SLC17A7 Antibody Rat Cerebral Cortex IHC. Immunohistochemical staining of FFPE rat brain demonstrated widespread SLC17A7 expression with prominent cytoplasmic and neuropil staining in cortical neurons. Heat-induced epitope retrieval was performed in pH8 EDTA buffer before staining with the primary antibody and HRP-DAB detection. The staining pattern is consistent with the localization of this Glutamate Transporter in excitatory glutamatergic neurons and presynaptic terminals, where it mediates vesicular glutamate loading for synaptic transmission. This SLC17A7 Antibody, a Glutamate Transporter Antibody, is suitable for immunohistochemical studies of cortical glutamatergic signaling, synaptic vesicle biology and neuronal function.



SLC17A7 Antibody Mouse Brain IHC. Immunohistochemical staining of FFPE mouse brain demonstrated widespread SLC17A7 expression with strong cytoplasmic and neuropil staining throughout neuronal regions. Heat-induced epitope retrieval was performed in pH8 EDTA buffer before staining with the primary antibody and HRP-DAB detection. The staining pattern is consistent with the localization of this Glutamate Transporter to excitatory glutamatergic neurons and synaptic vesicles, where it packages glutamate for neurotransmission. This SLC17A7 Antibody, a Glutamate Transporter Antibody, is suitable for immunohistochemical studies of excitatory neuronal pathways, synaptic vesicle biology and glutamatergic signaling.



SLC17A7 Antibody Human, Mouse and Rat WB. Western blot analysis detected SLC17A7 in human K562 (lane 1), U2OS (lane 2), SH-SY5Y (lane 3) and U251 (lane 4) cell lysates, as well as rat brain (lane 5), rat eye (lane 6) and mouse brain (lane 7). A predominant immunoreactive band was observed at approximately 53 kDa, slightly lower than the predicted molecular weight of 62 kDa, consistent with previously reported migration of SLC17A7. Strong expression in brain tissues reflects the abundant presence of this glutamate transporter in excitatory neurons. This SLC17A7 Antibody, a Glutamate Transporter Antibody, demonstrates cross-species reactivity and is suitable for studies of glutamatergic neurotransmission, synaptic vesicle biology and neuronal function.

Description

SLC17A7 Antibody / Glutamate Transporter Antibody recognizes Solute Carrier Family 17 Member 7 (SLC17A7), a neuronal transporter responsible for packaging glutamate into synaptic vesicles before neurotransmitter release. As a key component of excitatory synaptic transmission, SLC17A7 enables efficient loading of glutamate into presynaptic vesicles, ensuring rapid neurotransmission throughout the central nervous system. Proper SLC17A7 function is essential for synaptic communication, neuronal plasticity and normal brain development. NSJ Bioreagents provides SLC17A7 antibodies for investigations of glutamatergic signaling, synaptic biology and neuroscience research.

SLC17A7 is expressed predominantly in excitatory glutamatergic neurons of the cerebral cortex, hippocampus, cerebellum and other brain regions. Localized to synaptic vesicle membranes, the transporter uses the proton electrochemical gradient generated by vesicular ATPases to concentrate glutamate within synaptic vesicles prior to exocytosis. This process is fundamental for excitatory neurotransmission, learning, memory and higher cognitive function. Because of its selective expression in glutamatergic neurons, SLC17A7 is also widely used as a marker for excitatory neuronal populations.

Altered SLC17A7 expression or function has been associated with epilepsy, neurodegenerative disorders, schizophrenia, autism spectrum disorders and other neurological diseases characterized by disrupted glutamatergic signaling. Changes in glutamate transport can influence synaptic strength, neuronal excitability and excitotoxic injury, making SLC17A7 an important target for studies of synaptic dysfunction and therapeutic intervention. Continued research has further established SLC17A7 as a valuable biomarker for neuronal identity and synaptic activity across both normal physiology and disease models.

An SLC17A7 Antibody is a valuable reagent for detecting this glutamate transporter by Western blotting, immunohistochemistry, immunofluorescence, immunoprecipitation and related immunoassays. By enabling reliable analysis of protein expression and localization, an SLC17A7 Antibody supports investigations of glutamate transport, excitatory neurotransmission, synaptic vesicle biology and neuronal function.

Researchers investigating glutamatergic neurotransmission may also be interested in our Neuronal Marker Antibodies page, featuring antibodies against proteins involved in neuronal identity, synaptic transmission and nervous system function.

Application Notes

Optimal dilution of the SLC17A7 Antibody / Glutamate Transporter Antibody should be determined by the researcher.

Immunogen

A peptide specific to Solute Carrier Family 17 Member 7 protein was used as the immunogen for the SLC17A7 Antibody.

Storage

After reconstitution, the SLC17A7 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

SLC17A7 antibody, Glutamate Transporter antibody, Vesicular Glutamate Transporter antibody, BNPI antibody

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