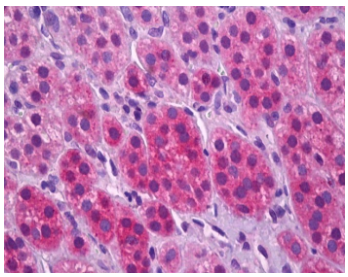
VGLUT1 Antibody / Vesicular Glutamate Transporter 1 Antibody (R36504)

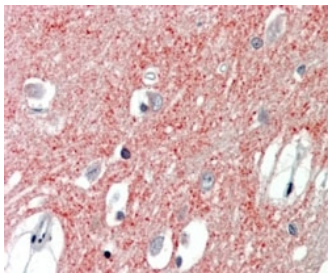
Catalog No.	Formulation	Size
R36504-100UG	0.5 mg/ml in 1X TBS, pH7.3, with 0.5% BSA (US sourced) and 0.02% sodium azide	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Goat
Clonality	Polyclonal (goat origin)
Isotype	Goat Ig
Purity	Antigen affinity
UniProt	Q9P2U7
Applications	Immunohistochemistry (FFPE) : 3.75ug/ml ELISA (peptide) LOD : 1:32000
Limitations	This VGLUT1 Antibody / Vesicular Glutamate Transporter 1 Antibody is available for research use only.



VGLUT1 Antibody Human Adrenal Cortex IHC. Immunohistochemical staining of FFPE human adrenal cortex tissue demonstrated strong cytoplasmic VGLUT1 expression in cortical cells with minimal staining of surrounding stromal elements. Heat-induced epitope retrieval was performed by steaming sections in pH6 citrate buffer before staining with the primary antibody and alkaline phosphatase detection. Although VGLUT1 is best known as Vesicular Glutamate Transporter 1 in excitatory neurons, expression in endocrine tissues supports emerging roles for glutamatergic signaling outside the central nervous system. This VGLUT1 Antibody, a Vesicular Glutamate Transporter 1 Antibody, is suitable for immunohistochemical studies of glutamatergic signaling in neural and neuroendocrine tissues.



VGLUT1 Antibody Human Cerebral Cortex IHC. Immunohistochemical staining of FFPE human cerebral cortex tissue demonstrated widespread VGLUT1 expression with diffuse neuropil staining and labeling of neuronal processes throughout the cortical gray matter. Heat-induced epitope retrieval was performed by steaming sections in pH6 citrate buffer before staining with the primary antibody and alkaline phosphatase detection. The staining pattern is consistent with the localization of Vesicular Glutamate Transporter 1 in glutamatergic presynaptic terminals that mediate excitatory neurotransmission. This VGLUT1 Antibody, a Vesicular Glutamate Transporter 1 Antibody, is suitable for immunohistochemical studies of excitatory synapses, cortical circuitry and glutamatergic neuron biology.

Description

VGLUT1 Antibody / Vesicular Glutamate Transporter 1 Antibody recognizes Vesicular Glutamate Transporter 1 (VGLUT1), the protein encoded by the SLC17A7 gene and a principal mediator of glutamate packaging into synaptic vesicles. VGLUT1 is highly enriched in excitatory neurons of the central nervous system, where it concentrates glutamate within synaptic vesicles before calcium-dependent neurotransmitter release. This vesicular transport process is essential for efficient excitatory synaptic transmission, neuronal communication and higher brain function. NSJ Bioreagents provides VGLUT1 antibodies for investigations of synaptic physiology, neuronal connectivity and glutamatergic signaling.

VGLUT1 is expressed predominantly in the cerebral cortex, hippocampus, cerebellum and other glutamatergic brain regions. Localized to presynaptic vesicle membranes, the transporter utilizes the proton electrochemical gradient generated by vesicular proton pumps to accumulate glutamate inside synaptic vesicles. Because of its selective neuronal expression, VGLUT1 is widely used as a marker of glutamatergic presynaptic terminals and excitatory neuronal populations in both normal and diseased nervous tissue. Analysis of VGLUT1 expression provides valuable insight into synaptic organization, neuronal circuitry and neurotransmitter release mechanisms.

Altered VGLUT1 expression has been associated with epilepsy, Alzheimer's disease, Parkinson's disease, schizophrenia, autism spectrum disorders and other neurological conditions characterized by disrupted glutamatergic neurotransmission. Changes in VGLUT1 abundance may influence synaptic plasticity, learning, memory and excitotoxicity, making the transporter an important biomarker and research target in neuroscience. Studies of VGLUT1 continue to improve understanding of synaptic dysfunction and the molecular basis of neurological disease.

A VGLUT1 Antibody is a valuable reagent for detecting Vesicular Glutamate Transporter 1 by Western blotting, immunohistochemistry, immunofluorescence, immunoprecipitation and related immunoassays. A Vesicular Glutamate Transporter 1 Antibody supports investigations of excitatory synapses, glutamatergic neurons, synaptic vesicle biology and neurotransmitter release.

For an overview of SLC17A7 function and glutamatergic neurotransmission, visit our SLC17A7 Antibody / Glutamate Transporter Antibody page.

Application Notes

Optimal dilution of the VGLUT1 Antibody / Vesicular Glutamate Transporter 1 Antibody should be determined by the researcher.

Immunogen

Amino acids HDQLAGSDDSEMED were used as the immunogen for this VGLUT1 antibody.

Storage

Aliquot and store the VGLUT1 antibody at -20oC.

Alternate Names

VGLUT1 antibody, Vesicular Glutamate Transporter 1 antibody, SLC17A7 antibody, BNPI antibody

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