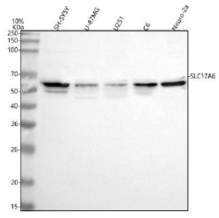
SLC17A6 Antibody / VGLUT2 / Vesicular glutamate transporter 2 (FY12581)

Catalog No.	Formulation	Size
FY12581	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
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	Q9P2U8
Applications	Western Blot: 0.25-0.5ug/ml ELISA: 0.1-0.5ug/ml
Limitations	This SLC17A6 antibody is available for research use only.



Western blot analysis of VGLUT2/SLC17A6 using anti-SLC17A6 antibody. Lane 1: human SH-SY5Y whole cell lysates, Lane 2: human U-87MG whole cell lysates, Lane 3: human U251 whole cell lysates, Lane 4: rat C6 whole cell lysates, Lane 5: mouse Neuro-2a whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-SLC17A6 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Western blot analysis of cell lysates probed with anti-SLC17A6 shows a major band at the expected ~64 kDa and minor lower bands corresponding to partially deglycosylated or processed forms of the N-glycosylated SLC17A6/VGLUT2 protein

Description

SLC17A6 antibody detects Vesicular glutamate transporter 2 (VGLUT2), a membrane protein responsible for packaging

the excitatory neurotransmitter glutamate into synaptic vesicles. SLC17A6 plays a central role in excitatory neurotransmission throughout the central nervous system, determining the quantal content of glutamatergic synapses. The SLC17A6 antibody is widely used in neuroscience research to study synaptic physiology, neurotransmitter transport, and neural circuit organization.

SLC17A6 is encoded by the SLC17A6 gene located on human chromosome 11p14. The protein is approximately 582 amino acids long and belongs to the solute carrier 17 family of sodium-dependent phosphate transporters. SLC17A6 localizes to presynaptic vesicles in excitatory neurons, where it uses a proton electrochemical gradient to drive the uptake of glutamate into vesicles prior to release. Its activity directly influences synaptic strength and excitatory signaling fidelity.

An SLC17A6 antibody detects a 60 kilodalton band by western blot and reveals punctate presynaptic staining in neurons and neuropil under immunofluorescence. SLC17A6 expression is region-specific, being highly enriched in subcortical brain regions such as the thalamus, brainstem, and hypothalamus. This distribution distinguishes it from the related vesicular glutamate transporters SLC17A7 (VGLUT1) and SLC17A8 (VGLUT3), which have complementary roles in different neuronal populations.

Functionally, SLC17A6 controls the rate of glutamate release and synaptic efficacy. Knockout studies demonstrate that loss of SLC17A6 leads to severe impairment in excitatory neurotransmission, altered locomotor behavior, and perinatal lethality. Conversely, increased expression of SLC17A6 enhances glutamatergic tone, contributing to excitotoxicity in neurodegenerative disorders such as Parkinson's and Alzheimer's disease.

Beyond its neuronal function, SLC17A6 is expressed in certain endocrine tissues, where it contributes to glutamate-dependent signaling. Because of its precise localization and critical role in neurotransmitter loading, SLC17A6 serves as a robust marker for excitatory synapses. NSJ Bioreagents provides a validated SLC17A6 antibody optimized for its applications, enabling detailed analysis of glutamate transport, synaptic vesicle biology, and excitatory circuitry.

Application Notes

Optimal dilution of the SLC17A6 antibody should be determined by the researcher.

Immunogen

E.coli-derived human VGLUT2/SLC17A6 recombinant protein (Position: M1-K561) was used as the immunogen for the SLC17A6 antibody.

Storage

After reconstitution, the SLC17A6 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

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