SLC6A16 Antibody / Solute carrier family 6 member 16 (FY13376)

Catalog No.	Formulation	Size
FY13376	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
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	Q9GZN6
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SLC6A16 antibody is available for research use only.

Description

SLC6A16 antibody detects Solute carrier family 6 member 16, a neuronal transporter encoded by the SLC6A16 gene on chromosome 19q13.33. SLC6A16 is part of the solute carrier 6 (SLC6) family of sodium- and chloride-dependent neurotransmitter transporters. It is predominantly expressed in brain, testis, and retina, where it functions in the uptake of amino acids and related substrates important for neuronal metabolism and signaling. Although its specific substrate preference is not fully characterized, evidence suggests it transports neutral amino acids or metabolites linked to neurotransmitter synthesis.

Structurally, SLC6A16 is a multi-pass transmembrane protein with twelve alpha-helical segments that span the plasma membrane. It contains conserved motifs responsible for sodium and chloride ion binding, which drive substrate transport against concentration gradients. SLC6A16 belongs to the neurotransmitter transporter family that includes serotonin (SERT), dopamine (DAT), and GABA (GAT) transporters, all sharing similar architecture and transport mechanisms. Co-localization studies show SLC6A16 localized to neuronal plasma membranes and synaptic vesicles, consistent with roles in neurotransmission and amino acid uptake.

Functionally, SLC6A16 participates in the reuptake and recycling of amino acids critical for neuronal homeostasis and synaptic activity. It maintains intracellular amino acid pools required for neurotransmitter synthesis and energy metabolism. In the testis, it may contribute to amino acid transport across Sertoli cell membranes, supporting germ cell development. The transporter couples substrate uptake to sodium and chloride gradients, allowing efficient nutrient capture even at low extracellular concentrations.

Dysregulation or mutation of SLC6A16 has been linked to neurodevelopmental and metabolic disorders. Variants have been associated with autism spectrum disorder, intellectual disability, and altered metabolic profiles in the brain. Altered expression in testicular tissues suggests additional roles in reproductive physiology. Pathway involvement includes neurotransmitter transport, amino acid metabolism, and sodium ion transmembrane transport. Expression of SLC6A16 increases during neuronal differentiation, indicating a developmental role in establishing amino acid homeostasis.

Immunohistochemical staining using SLC6A16 antibody shows membrane localization in neurons and testicular Sertoli cells. The SLC6A16 antibody from NSJ Bioreagents is an excellent reagent for research on neurotransmitter transport, amino acid metabolism, and neuronal signaling regulation.

Application Notes

Optimal dilution of the SLC6A16 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SLC6A16 recombinant protein (Position: E33-Y728) was used as the immunogen for the SLC6A16 antibody.

Storage

After reconstitution, the SLC6A16 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.