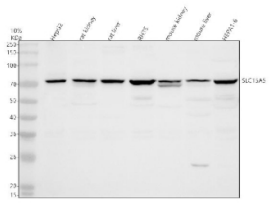
SLC15A5 Antibody / Solute carrier family 15 member 5 (FY13261)

Catalog No.	Formulation	Size
FY13261	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	A6NIM6
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This SLC15A5 antibody is available for research use only.



Western blot analysis of SLC15A5 using anti-SLC15A5 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HepG2 whole cell lysates, Lane 2: rat kidney tissue lysates, Lane 3: rat liver tissue lysates, Lane 4: rat RH35 whole cell lysates, Lane 5: rat kidney tissue lysates, Lane 6: mouse liver tissue lysates, Lane 7: mouse HEPA1-6 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-SLC15A5 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 an ECL Plus Western Blotting Substrate. A predominant band is detected at an approximately 70 kDa in all samples, running slightly above the predicted ~65 kDa size of the 579 amino acid SLC15A5 polypeptide, consistent with the higher apparent molecular weight expected for a glycosylated multi-pass membrane transporter.

Description

SLC15A5 antibody detects Solute carrier family 15 member 5, a member of the proton-coupled oligopeptide transporter

family that contributes to peptide transport across cellular membranes. The UniProt recommended name is Solute carrier family 15 member 5 (SLC15A5). This membrane protein is primarily expressed in the brain and functions in the uptake and recycling of small peptides, potentially influencing neuronal signaling and metabolic homeostasis.

Functionally, SLC15A5 antibody identifies a 579-amino-acid transmembrane transporter characterized by multiple hydrophobic segments that form a peptide permeation pathway. While the physiological substrates of SLC15A5 remain under investigation, its sequence homology with other SLC15 family members (such as SLC15A1/PEPT1 and SLC15A2/PEPT2) suggests it operates as a proton-dependent symporter. SLC15A5 likely participates in regulating peptide and amino acid availability in neuronal and glial cells, supporting neurotransmitter synthesis and signaling balance.

The SLC15A5 gene is located on chromosome 12q21.31 and is expressed primarily in the central nervous system, with highest levels observed in cerebellum and hippocampus. Expression is tightly regulated during neural development and may respond to metabolic or synaptic activity changes. In addition to its neuronal role, SLC15A5 expression has been reported in skeletal muscle and testis, indicating potential tissue-specific transport functions.

Pathologically, disruption of SLC15A5 expression has been linked to neurological and psychiatric conditions. Variants in the SLC15A5 locus have been associated with susceptibility to major depressive disorder and cognitive dysfunction. Abnormal transporter activity may affect brain peptide signaling and synaptic communication. Research using SLC15A5 antibody supports studies in membrane transport, neurobiology, and metabolic regulation.

SLC15A5 antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect peptide transport proteins. NSJ Bioreagents provides SLC15A5 antibody reagents optimized for studies in neuronal peptide uptake, proton-coupled transport, and solute carrier family biology.

Structurally, Solute carrier family 15 member 5 contains 12 predicted transmembrane helices forming a transporter channel and cytoplasmic domains involved in proton coupling and regulation. Conserved motifs typical of the SLC15 family mediate substrate binding and conformational shifts during the transport cycle. This antibody enables investigation of SLC15A5's role in neuronal physiology, peptide metabolism, and cellular transport processes.

Application Notes

Optimal dilution of the SLC15A5 antibody should be determined by the researcher.

Immunogen

E.coli-derived human SLC15A5 recombinant protein (Position: D10-L579) was used as the immunogen for the SLC15A5 antibody.

Storage

After reconstitution, the SLC15A5 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.