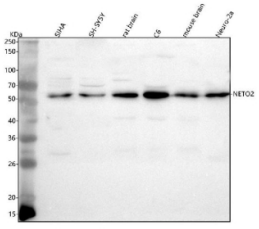
NETO2 Antibody / Neuropilin and tolloid-like protein 2 (FY12649)

Catalog No.	Formulation	Size
FY12649	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	Q8NC67
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This NETO2 antibody is available for research use only.



Western blot analysis of NETO2 using anti-NETO2 antibody. Lane 1: human SIHA whole cell lysates, Lane 2: human SH-SY5Y whole cell lysates, Lane 3: rat brain tissue lysates, Lane 4: rat C6 whole cell lysates, Lane 5: mouse brain tissue lysates, Lane 6: 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-NETO2 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. The expected molecular weight of NETO2 is ~59 kDa.

Description

NETO2 antibody detects Neuropilin and tolloid-like protein 2, a transmembrane glycoprotein that functions as an auxiliary subunit of kainate-type glutamate receptors (KARs), modulating receptor kinetics and synaptic transmission. NETO2 is involved in regulating excitatory neurotransmission, synaptic plasticity, and neuronal communication. The NETO2 antibody is widely used in neurobiology, electrophysiology, and developmental studies to explore receptor modulation and synaptic organization.

NETO2 is encoded by the NETO2 gene located on human chromosome 16q12.1. The protein is approximately 525 amino acids in length and contains two extracellular CUB domains, a low-density lipoprotein receptor-like domain, a transmembrane segment, and a short cytoplasmic tail. It localizes to the postsynaptic membrane in neurons, where it interacts with KAR subunits such as GluK1 and GluK2 to regulate receptor assembly and surface expression.

The NETO2 antibody detects a 62 kilodalton protein by western blot and reveals punctate synaptic staining under immunofluorescence microscopy. NETO2 enhances the functional diversity of KARs by altering desensitization rates and gating properties, shaping excitatory signaling in neural circuits. It is required for normal synaptic strength and contributes to processes like long-term potentiation and synaptic scaling.

Loss of NETO2 leads to impaired excitatory transmission, altered neuronal connectivity, and behavioral abnormalities, including deficits in learning and memory. NETO2 is expressed in multiple brain regions, including the hippocampus and cortex, and its dysregulation has been implicated in autism spectrum disorders and schizophrenia. Outside the brain, NETO2 may participate in neuronal migration and development of sensory pathways.

Because NETO2 serves as a critical regulator of excitatory synapse function, it provides valuable insight into glutamate receptor modulation and synaptic homeostasis. NSJ Bioreagents provides a validated NETO2 antibody optimized for its applications, supporting research into excitatory neurotransmission, receptor function, and neurological disorders.

Application Notes

Optimal dilution of the NETO2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NETO2 recombinant protein (Position: I23-F525) was used as the immunogen for the NETO2 antibody.

Storage

After reconstitution, the NETO2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.