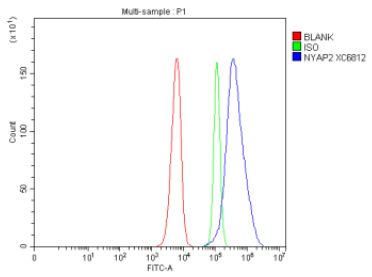
NYAP2 Antibody / Neuronal tyrosine-phosphorylated phosphoinositide-3-kinase adapter 2 (FY13249)

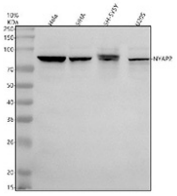
Catalog No.	Formulation	Size
FY13249	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
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	Q9P242
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This NYAP2 antibody is available for research use only.



Flow Cytometry analysis of human SIHA cells using anti-NYAP2 antibody. Overlay histogram showing SIHA cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-NYAP2 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of NYAP2 using anti-NYAP2 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Hela whole cell lysates, Lane 2: human SIHA whole cell lysates, Lane 3: human SH-SY5Y whole cell lysates, Lane 4: human U2OS 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-NYAP2 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. Western blot analysis of NYAP2 in HeLa, SiHa, SH-SY5Y, and U-251 cell lysates using an anti NYAP2 antibody. A predominant band is detected at an approximately 80-85 kDa in all samples, running slightly above the predicted ~71 kDa size of NYAP2 but consistent with the higher apparent molecular weight reported for this heavily phosphorylated adaptor protein.

Description

NYAP2 antibody detects Neuronal tyrosine-phosphorylated phosphoinositide-3-kinase adapter 2, a brain-specific signaling adaptor protein involved in neuronal morphogenesis, axon guidance, and synaptic plasticity. The UniProt recommended name is Neuronal tyrosine-phosphorylated phosphoinositide-3-kinase adapter 2 (NYAP2). This protein functions as a cytoplasmic adaptor linking guidance cues to the activation of PI3K pathways that regulate actin dynamics and neurite outgrowth.

Functionally, NYAP2 antibody identifies a 1,228-amino-acid neuronal protein that interacts with IRSp53 and PI3K subunits to transmit signals from axon guidance receptors such as neuregulin and contactin-associated proteins. NYAP2 participates in a signaling cascade involving Crk-associated substrate (CAS) and small GTPases Rac1 and Cdc42, controlling actin filament organization and neuronal polarity. It localizes to axons and growth cones, where it modulates cytoskeletal remodeling during neuronal wiring and plasticity.

The NYAP2 gene is located on chromosome 2q37.3 and is selectively expressed in brain regions including cortex, hippocampus, and cerebellum. Its expression peaks during neuronal differentiation and synapse formation, aligning with its role in neurodevelopment and synaptic function.

Pathologically, altered NYAP2 expression or mutation disrupts neuronal connectivity and has been associated with neurodevelopmental disorders such as autism spectrum disorder and intellectual disability. Dysregulation of NYAP2-mediated PI3K signaling may also contribute to synaptic dysfunction in neurodegenerative diseases. Research using NYAP2 antibody supports studies in neuronal signaling, actin cytoskeleton regulation, and brain development.

NYAP2 antibody is validated for western blotting, immunofluorescence, and immunohistochemistry to detect neuronal adaptor proteins. NSJ Bioreagents provides NYAP2 antibody reagents optimized for studies in axon guidance, synaptic signaling, and cytoskeletal remodeling.

Structurally, Neuronal tyrosine-phosphorylated phosphoinositide-3-kinase adapter 2 contains multiple proline-rich motifs, SH3-binding regions, and tyrosine phosphorylation sites that enable dynamic interactions with signaling complexes. Its modular design allows integration of membrane receptor signals with intracellular actin regulatory machinery. This antibody facilitates exploration of NYAP2's function in neuronal network formation and synaptic communication.

Application Notes

Optimal dilution of the NYAP2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human NYAP2 recombinant protein (Position: H83-L617) was used as the immunogen for the NYAP2 antibody.

Storage

After reconstitution, the NYAP2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.