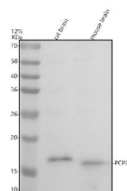


PCP2 Antibody / Purkinje cell protein 2 (FY12812)

Catalog No.	Formulation	Size
FY12812	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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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 Na ₂ HPO ₄ .
UniProt	Q8IVA1
Applications	Western Blot : 0.25-0.5ug/ml
Limitations	This PCP2 antibody is available for research use only.



Western blot analysis of PCP2 using anti-PCP2 antibody. Electrophoresis was performed on a 12% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue 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-PCP2 antibody at 0.5 ug/ml overnight at 4°C, 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 specific band was detected for PCP2 at approximately 15 kDa. The expected molecular weight of PCP2 is ~15 kDa.

Description

PCP2 antibody detects Purkinje cell protein 2, a brain-specific regulator of G protein signaling and neuronal function. Encoded by the PCP2 gene on chromosome 19p13.2, this protein is selectively expressed in cerebellar Purkinje cells and retinal bipolar neurons. PCP2, also known as L7, modulates intracellular signaling by binding to G α subunits of heterotrimeric G proteins, influencing synaptic transmission and motor coordination.

PCP2 contains a GoLoco motif that enables high-affinity binding to inactive GDP-bound Galpha subunits, acting as a guanine nucleotide dissociation inhibitor (GDI). Through this interaction, it regulates G protein-coupled receptor (GPCR) signaling pathways that affect neuronal excitability and neurotransmitter release. PCP2 expression increases during cerebellar development, coinciding with synapse formation and maturation of Purkinje cells.

The PCP2 antibody is widely used in neurobiology, developmental, and signaling research to investigate cerebellar function, G protein regulation, and neuronal connectivity. Western blot analysis identifies a 17 kilodalton band corresponding to PCP2, while immunohistochemistry shows intense staining in Purkinje cell somata and dendrites, as well as retinal bipolar neurons. This antibody enables precise visualization of neuronal subtypes and signaling dynamics in the cerebellum and retina.

Altered expression of PCP2 has been associated with ataxia, autism spectrum disorders, and visual processing abnormalities, reflecting its role in synaptic signal modulation. The PCP2 antibody provides a sensitive tool for exploring cerebellar physiology and G protein regulation. NSJ Bioreagents validates this antibody for its applications, ensuring robust detection for neuroscience applications.

Application Notes

Optimal dilution of the PCP2 antibody should be determined by the researcher.

Immunogen

A synthetic peptide corresponding to a sequence at the N-terminus of human PCP2 was used as the immunogen for the PCP2 antibody.

Storage

After reconstitution, the PCP2 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.