

PCP-2 (T-14): sc-49074

BACKGROUND

Purkinje cells are densely branching neurons characteristic of the cerebellar cortex. Purkinje cell protein-2 (PCP-2 or L7) is a G protein regulator abundant in Purkinje cells and retinal bipolar neurons. PCP-2 belongs to a family of proteins containing a GoLoco or GPR (G protein regulatory) motif named for the $G_{i/o}$ interacting protein Loco, the *Drosophila* RGS12 homolog. PCP-2 protein interacts with the $G_{\alpha i/o}$ family of G proteins to inhibit GDP release. This indicates that the co-localization and association of $G_{\alpha i/o}$ and PCP-2 in cerebellum may play a functional role in regions of synaptic activity, as well as neural differentiation. The Purkinje type calcium channels may be physiological effectors of PCP-2 because they are the major voltage-dependent channels that modulate cell output and are regulated by $G_{i/o}$ proteins. PCP-2 is only detected in higher vertebrates, suggesting that it may be a marker of more recent evolutionary development of cerebellar Purkinje cells.

REFERENCES

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- Zhang, X., et al. 2002. Conservation of the developmentally regulated dendritic localization of a Purkinje cell-specific mRNA that encodes a G protein modulator: comparison of rodent and human L7/PCP-2 gene structure and expression. *Brain Res. Mol. Brain Res.* 105: 1-10.
- Kinoshita-Kawada, M., et al. 2004. A Purkinje cell-specific GoLoco domain protein, L7/PCP-2, modulates receptor-mediated inhibition of Cav2.1 Ca^{2+} channels in a dose-dependent manner. *Brain Res. Mol. Brain Res.* 132: 73-86.
- Rong, Y., et al. 2004. Identification of candidate Purkinje cell-specific markers by gene expression profiling in wildtype and pcd(3J) mice. *Brain Res. Mol. Brain Res.* 132: 128-145.
- Guan, J., et al. 2005. Purkinje cell protein-2 (PCP-2) stimulates differentiation in PC12 cells by $G_{\beta\gamma}$ -mediated activation of Ras and p38 MAPK. *Biochem. J.* 392: 389-397.

CHROMOSOMAL LOCATION

Genetic locus: PCP2 (human) mapping to 19p13.2; Pcp2 (mouse) mapping to 8 A1.1.

SOURCE

PCP-2 (T-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PCP-2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49074 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

PCP-2 (T-14) is recommended for detection of PCP-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PCP-2 siRNA (h): sc-61307, PCP-2 siRNA (m): sc-61308, PCP-2 shRNA Plasmid (h): sc-61307-SH, PCP-2 shRNA Plasmid (m): sc-61308-SH, PCP-2 shRNA (h) Lentiviral Particles: sc-61307-V and PCP-2 shRNA (m) Lentiviral Particles: sc-61308-V.

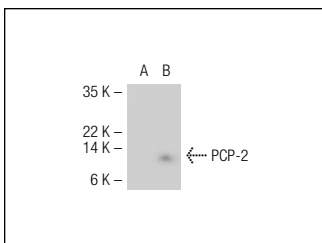
Molecular Weight of PCP-2: 16 kDa.

Positive Controls: PCP-2 (m): 293T Lysate: sc-122437

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PCP-2 (T-14): sc-49074. Western blot analysis of PCP-2 expression in non-transfected: sc-117752 (A) and mouse PCP-2 transfected: sc-122437 (B) 293T whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

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Try **PCP-2 (F-3): sc-137064**, our highly recommended monoclonal alternative to PCP-2 (T-14).