

PLC ϵ 2 (L-13): sc-99599

BACKGROUND

Phosphoinositide-specific phospholipase C (PLC) plays a crucial role in the initiation of receptor mediated signal transduction through the generation of the two second messengers, inositol 1,4,5-triphosphate (Ins(1,4,5)P₃) and diacylglycerol from phosphatidylinositol 4,5-bisphosphate. There are many mammalian PLC isozymes, including PLC β 1, PLC β 2, PLC β 3, PLC β 4, PLC γ 1, PLC γ 2, PLC δ 1, PLC δ 2, PLC ϵ and PLC ϵ 2. PLC ϵ 2 (phospholipase C ϵ 2), also known as Inactive phospholipase C-like protein 2 (PLCL2) and PRIP-2, is a 1127 amino acid cytoplasmic protein that may play a role in the regulation of Ins(1,4,5)P₃ around the endoplasmic reticulum. PLC ϵ 2 contains a C2 domain, a PH domain, a PI-PLC X-box domain (X-box) and a PI-PLC Y-box domain (Y-box). The X-box and Y-box domains are usually important for catalytic activity, though PLC ϵ 2 seems to be catalytically inactive. PLC ϵ 2, along with PRIP-1, may play a role in trafficking certain GABA receptors. There are three isoforms of PLC ϵ 2 that are expressed as a result of alternative splicing events.

REFERENCES

1. Kanematsu, T., et al. 2002. Role of the PLC-related, catalytically inactive protein p130 in GABA_A receptor function. *EMBO J.* 21: 1004-1011.
2. Uji, A., et al. 2002. Molecules interacting with PRIP-2, a novel Ins(1,4,5)P₃ binding protein type 2: Comparison with PRIP-1. *Life Sci.* 72: 443-453.
3. Kanematsu, T., et al. 2005. PRIP, a novel Ins(1,4,5)P₃ binding protein, functional significance in Ca²⁺ signaling and extension to neuroscience and beyond. *Mol. Cells* 20: 305-314.
4. Yanagihori, S., et al. 2006. Protein phosphatase regulation by PRIP, a PLC-related catalytically inactive protein—implications in the phospho-modulation of the GABA_A receptor. *Adv. Enzyme Regul.* 46: 203-222.
5. Kanematsu, T., et al. 2006. Modulation of GABA_A receptor phosphorylation and membrane trafficking by phospholipase C-related inactive protein/protein phosphatase 1 and 2A signaling complex underlying brain-derived neurotrophic factor-dependent regulation of GABAergic inhibition. *J. Biol. Chem.* 281: 22180-22189.
6. Chen, Z.W., et al. 2007. GABA_A receptor associated proteins: a key factor regulating GABA_A receptor function. *J. Neurochem.* 100: 279-294.

CHROMOSOMAL LOCATION

Genetic locus: PLCL2 (human) mapping to 3p24.3; Plcl2 (mouse) mapping to 17 C.

SOURCE

PLC ϵ 2 (L-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PLC ϵ 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-99599 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PLC ϵ 2 (L-13) is recommended for detection of PLC ϵ 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).

PLC ϵ 2 (L-13) is also recommended for detection of PLC ϵ 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLC ϵ 2 siRNA (h): sc-77971, PLC ϵ 2 siRNA (m): sc-152296, PLC ϵ 2 shRNA Plasmid (h): sc-77971-SH, PLC ϵ 2 shRNA Plasmid (m): sc-152296-SH, PLC ϵ 2 shRNA (h) Lentiviral Particles: sc-77971-V and PLC ϵ 2 shRNA (m) Lentiviral Particles: sc-152296-V.

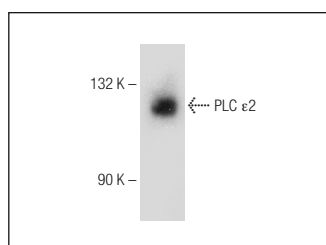
Molecular Weight of PLC ϵ 2: 130 kDa.

Positive Controls: C2C12 whole cell lysate.

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



PLC ϵ 2 (L-13): sc-99599. Western blot analysis of PLC ϵ 2 expression in C2C12 whole cell lysate.

STORAGE

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

RESEARCH USE

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