

p-PLC γ 2 (Tyr 753): sc-101785

BACKGROUND

Phosphoinositide-specific phospholipase C (PLC) plays a critical role in the initiation of receptor mediated signal transduction through the generation of the two second messengers, inositol 1,4,5-triphosphate 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 and PLC ϵ . After stimulation of the collagen receptor glycoprotein VI in human platelets, PLC γ 2 associates with several tyrosine-phosphorylated proteins (Syk, SLP-76, Lyn, linker for activation of T cells (LAT) and the FcR γ chain), which bind to its C-terminal SH2 domain. PLC γ 1 associates with Syk in B cells, but PLC γ 2 does not associate with Syk in platelets. The C-terminal SH2 domain is involved in the regulation of PLC γ 2. In addition, Btk can induce PLC γ 2 tyrosine phosphorylation and initiate calcium mobilization in CD72-stimulated B lymphocytes.

REFERENCES

- Suh, P., Ryu, S.H., Moon, K.H., Suh, H.W. and Rhee, S.G. 1988. Inositol phospholipid-specific phospholipase C: complete cDNA and protein sequences and sequence homology to tyrosine kinase-related oncogene products. *Proc. Natl. Acad. Sci. USA* 85: 5419-5423.
- Emori, Y., Homma, Y., Sorimachi, H., Kawasaki, H., Nakanishi, O., Suzuki, K. and Takenawa, T. 1989. A second type of rat phosphoinositide-specific phospholipase C containing a Src-related sequence not essential for phosphoinositide-hydrolyzing activity. *J. Biol. Chem.* 264: 21885-21890.
- Meldrum, E., Kriz, R.W., Totty, N. and Parker, P.J. 1991. A second gene product of the inositol-phospholipid-specific phospholipase C δ subclass. *Eur. J. Biochem.* 196: 159-165.
- Rhee, S.G. and Choi, K.D. 1992. Regulation of inositol phospholipid-specific phospholipase C isozymes. *J. Biol. Chem.* 267: 12393-12396.
- Kim, M.J., Bahk, Y.Y., Min, D.S., Lee, S., Ryu, S.H. and Suh, P. 1993. Cloning of cDNA encoding rat phospholipase C β 4, a new member of the phospholipase C. *Biochem. Biophys. Res. Comm.* 194: 706-712.
- Jhon, D., Lee, H., Park, D., Lee, C., Lee, K., Yoo, O.J. and Rhee, S.G. 1993. Cloning, sequencing, purification and G $_q$ -dependent activation of phospholipase C β 3. *J. Biol. Chem.* 268: 6654-6661.
- Venkataraman, C., Muthusamy, N., Muthukumar, S. and Bondada, S. 1998. Activation of Lyn, Blk, Btk but not Syk in CD72-stimulated B lymphocytes. *J. Immunol.* 160: 3322-3329.
- Gross, B.S., Melford, S.K. and Watson, S.P. 1999. Evidence that phospholipase C- γ 2 interacts with SLP-76, Syk, Lyn, LAT and the Fc receptor γ -chain after stimulation of the collagen receptor glycoprotein VI in human platelets. *Eur. J. Biochem.* 263: 612-623.

CHROMOSOMAL LOCATION

Genetic locus: PLCG2 (human) mapping to 16q23.2; Plcg2 (mouse) mapping to 23A779.

RESEARCH USE

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

SOURCE

p-PLC γ 2 (Tyr 753) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 753 of PLC γ 2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

p-PLC γ 2 (Tyr 753) is recommended for detection of Tyr 753 phosphorylated PLC γ 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1–2 μ g per 100–500 μ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for PLC γ 2 siRNA (h): sc-36268 and PLC γ 2 siRNA (m): sc-36269.

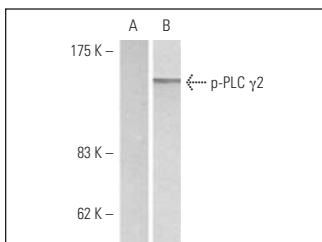
Molecular Weight of p-PLC γ 2: 155 kDa.

Positive Controls: A-431 + EGF whole cell lysate: sc-2202.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



p-PLC γ 2 (Tyr 753): sc-101785. Western blot analysis of phosphorylated PLC γ 2 expression in untreated (A) and EGF-treated (B) A-431 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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.