

PLC γ 2 (A-3): sc-390389

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

1. Suh, P., et al. 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.
2. Emori, Y., et al. 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.
3. Meldrum, E., et al. 1991. A second gene product of the inositol-phospholipid-specific phospholipase C δ subclass. *Eur. J. Biochem.* 196: 159-165.
4. Rhee, S.G. and Choi, K.D. 1992. Regulation of inositol phospholipid-specific phospholipase C isozymes. *J. Biol. Chem.* 267: 12393-12396.
5. Kim, M.J., et al. 1993. Cloning of cDNA encoding rat phospholipase C- β 4, a new member of the phospholipase C. *Biochem. Biophys. Res. Commun.* 194: 706-712.

CHROMOSOMAL LOCATION

Genetic locus: PLCG2 (human) mapping to 16q23.3; Plcg2 (mouse) mapping to 8 E1.

SOURCE

PLC γ 2 (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 935-971 within an internal region of PLC γ 2 of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-390389 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

PLC γ 2 (A-3) is recommended for detection of PLC γ 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 γ 2 (A-3) is also recommended for detection of PLC γ 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLC γ 2 siRNA (h): sc-36268, PLC γ 2 siRNA (m): sc-36269, PLC γ 2 shRNA Plasmid (h): sc-36268-SH, PLC γ 2 shRNA Plasmid (m): sc-36269-SH, PLC γ 2 shRNA (h) Lentiviral Particles: sc-36268-V and PLC γ 2 shRNA (m) Lentiviral Particles: sc-36269-V.

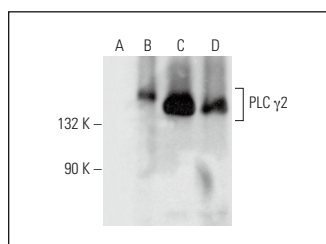
Molecular Weight of PLC γ 2: 155 kDa.

Positive Controls: PLC γ 2 (h2): 293T Lysate: sc-172701, Ramos cell lysate: sc-2216 or THP-1 cell lysate: sc-2238.

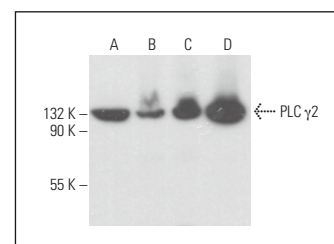
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PLC γ 2 (A-3): sc-390389. Western blot analysis of PLC γ 2 expression in non-transfected 293T: sc-117752 (A), human PLC γ 2 transfected 293T: sc-172701 (B), Ramos (C) and THP-1 (D) whole cell lysates.



PLC γ 2 (A-3): sc-390389. Western blot analysis of PLC γ 2 expression in THP-1 (A), U-698-M (B), Daudi (C) and GA-10 (D) whole cell lysates.

RESEARCH USE

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



See **PLC γ 2 (B-10): sc-5283** for PLC γ 2 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.