

PLC γ 2 (Q-20): sc-407

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.

CHROMOSOMAL LOCATION

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

SOURCE

PLC γ 2 (Q-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of PLC γ 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-407 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PLC γ 2 (Q-20) is recommended for detection of PLC γ 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), immunohistochemistry (including paraffin-embedded sections) (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 (Q-20) is also recommended for detection of PLC γ 2 in additional species, including equine, canine, bovine, porcine and avian.

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, MCF7 whole cell lysate: sc-2206 or MCF7 + etoposide cell lysate: sc-2281.

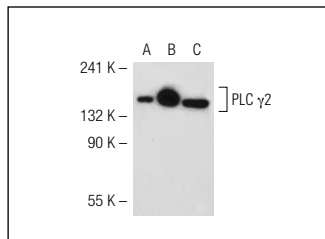
RESEARCH USE

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

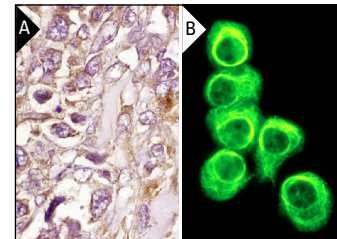
STORAGE

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

DATA



PLC γ 2 (Q-20): sc-407. Western blot analysis of PLC γ 2 expression in non-transfected 293T: sc-117752 (A), human PLC γ 2 transfected 293T: sc-172701 (B) and MCF7 (C) whole cell lysates.



PLC γ 2 (Q-20): sc-407. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human lymphoma showing membrane and cytoplasmic staining (A). Immunofluorescence staining of methanol-fixed RAW 264.7 cells showing membrane and cytoplasmic localization (B).

SELECT PRODUCT CITATIONS

1. Sato, S., et al. 1997. CD19 and CD22 expression reciprocally regulates tyrosine phosphorylation of Vav protein during B lymphocyte signaling. *Proc. Natl. Acad. Sci. USA* 94: 13158-13162.
2. Bunney, T.D., et al. 2009. Structural insights into formation of an active signaling complex between Rac and phospholipase C γ 2. *Mol. Cell* 34: 223-233.
3. Bhattacharya, R., et al. 2009. Distinct role of PLC β 3 in VEGF-mediated directional migration and vascular sprouting. *J. Cell Sci.* 122: 1025-1034.
4. Ishmael, S. and MacGlashan, D. 2009. Early signal protein expression profiles in basophils: a population study. *J. Leukoc. Biol.* 86: 313-325.
5. Guidetti, G.F., et al. 2009. Integrin α 2 β 1 induces phosphorylation-dependent and phosphorylation-independent activation of phospholipase C γ 2 in platelets: role of Src kinase and Rac GTPase. *J. Thromb. Haemost.* 7: 1200-1206.
6. Kim, H.S., et al. 2010. Synergistic signals for natural cytotoxicity are required to overcome inhibition by c-Cbl ubiquitin ligase. *Immunity* 32: 175-186.
7. Daniel, J.L., et al. 2010. Cbl- β is a novel physiologic regulator of glycoprotein VI-dependent platelet activation. *J. Biol. Chem.* 285: 17282-17291.
8. Chu Y., et al. 2011. B cells lacking the tumor suppressor TNFAIP3/A20 display impaired differentiation and hyperactivation and cause inflammation and autoimmunity in aged mice. *Blood* 117: 2227-2236.

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Try **PLC γ 2 (B-10): sc-5283** or **PLC γ 2 (A-3): sc-390389**, our highly recommended monoclonal alternatives to PLC γ 2 (Q-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **PLC γ 2 (B-10): sc-5283**.