

PLC γ 1 (530): sc-426

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 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 . PLC γ 1, is widely distributed in bronchiolar epithelium, type I and II pneumocytes and fibroblasts of the interstitial tissue. Actin-regulatory protein villin is tyrosine phosphorylated and associates with PLC γ 1 in the brush border of intestinal epithelial cells. Villin regulates PLC γ 1 activity by modifying its own ability to bind phosphatidylinositol 4,5-bisphosphate. PLC γ 1 binds α 1 β 1 integrin and modulates α 1 β 1 integrin-specific adhesion. PLC γ 1 and Ca²⁺ plays a direct role in VEGF-regulated endothelial growth, however this signaling pathway is not linked to FGF-mediated effects in primary endothelial cells. PLC γ 1 is rapidly activated in response to growth factor stimulation and plays an important role in regulating cell proliferation and differentiation, and may have a protective function during cellular response to oxidative stress.

CHROMOSOMAL LOCATION

Genetic locus: PLCG1 (human) mapping to 20q12; Plcg1 (mouse) mapping to 2 H2.

SOURCE

PLC γ 1 (530) is a rabbit polyclonal antibody raised against amino acids 530-850 of PLC γ 1 of rat origin.

PRODUCT

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

APPLICATIONS

PLC γ 1 (530) is recommended for detection of PLC γ 1 p145 of mouse, rat, human and hamster 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 γ 1 (530) is also recommended for detection of PLC γ 1 p145 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLC γ 1 siRNA (h): sc-29452, PLC γ 1 siRNA (m): sc-36265, PLC γ 1 shRNA Plasmid (h): sc-29452-SH, PLC γ 1 shRNA Plasmid (m): sc-36265-SH, PLC γ 1 shRNA (h) Lentiviral Particles: sc-29452-V and PLC γ 1 shRNA (m) Lentiviral Particles: sc-36265-V.

Molecular Weight of PLC γ 1: 155 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, A-431 whole cell lysate: sc-2201 or KNRK whole cell lysate: sc-2214.

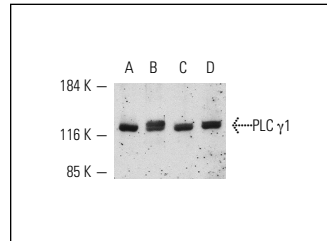
RESEARCH USE

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

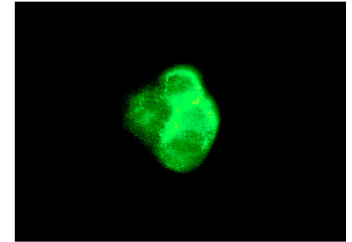
STORAGE

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

DATA



PLC γ 1 (530): sc-426. Western blot analysis of PLC γ 1 expression in CHO-K1 (A), A-431 (B), NIH/3T3 (C) and KNRK (D) whole cell lysates.



PLC γ 1 (530): sc-426. Immunofluorescence staining of methanol-fixed A-431 cells showing membrane and cytoplasmic staining.

SELECT PRODUCT CITATIONS

- Jackman, J.K., et al. 1995. Molecular cloning of SLP-76, a 76-kDa tyrosine phosphoprotein associated with Grb2 in T cells. *J. Biol. Chem.* 270: 7029-7032.
- Alvarez, M.D., et al. 2007. Time-dependent onset of Interferon- α 2b-induced apoptosis in isolated hepatocytes from preneoplastic rat livers. *Cytokine* 36: 245-253.
- 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.
- Fehrenbach, K., et al. 2009. Steel factor enhances supraoptimal antigen-induced IL-6 production from mast cells via activation of protein kinase C- β . *J. Immunol.* 182: 7897-7905.
- Grochow, G., et al. 2009. Requirement for CD45 in fine-tuning mast cell responses mediated by different ligand-receptor systems. *Cell. Signal.* 21: 1277-1286.
- Ishmael, S. and MacGlashan, D. 2009. Early signal protein expression profiles in basophils: a population study. *J. Leukoc. Biol.* 86: 313-325.
- Paulsen, M., et al. 2011. Modulation of CD4+ T-cell activation by CD95 co-stimulation. *Cell Death Differ.* 18: 619-631.
- Balz, L.M., et al. 2012. The interplay of HER2/HER3/PI3K and EGFR/HER2/PLC-requirement for CD45 in fine-tuning mast cell responses mediated by different ligand-receptor systems1 signalling in breast cancer cell migration and dissemination. *J. Pathol.* 227: 234-244.


 MONOS
Satisfation
Guaranteed

Try **PLC γ 1 (E-12): sc-7290** or **PLC γ 1 (H-3): sc-166938**, our highly recommended monoclonal alternatives to PLC γ 1 (530). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **PLC γ 1 (E-12): sc-7290**.