SANTA CRUZ BIOTECHNOLOGY, INC.

PLC β4 (56): sc-136041

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. A total of eight mammalian PLC isozymes have been described (PLC β1, PLC β2, PLC β3, PLC β4, PLC γ1, PLC γ2, PLC δ1 and PLC δ2). The γ-type enzymes are unique in that they contain SH2 and SH3 domains. Moreover, the two γ-type enzymes, but not the β and δ isozymes, are subject to activation by a number of protein tyrosine kinases which associate with their SH2 domains and induce their activation by phosphoryation. In contrast, activation of PLC β1, PLC β2 and PLC β3 is mediated by the α subunits of the G_q class of heterotrimeric G proteins and by certain βγ G protein subunits. The regulatory mechanisms for PLC δ1 and PLC δ2 are not yet resolved.

REFERENCES

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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 Cδ subclass. Eur. J. Biochem. 196: 159-165.
4. Koch, C.A., et al. 1991. SH2 and SH3 domains: elements that control interactions of cytoplasmic signaling proteins. Science 252: 668-674.
5. Rhee, S.G. and Choi, K.D. 1992. Regulation of inositol phospholipid-specific phospholipase C isozymes. J. Biol. Chem. 267: 12393-12396.
6. Kim, M.J., et al. 1993. Cloning of cDNA encoding rat phospholipase C-β4, a new member of the phospholipase C. Biochem. Biophys. Res. Comm. 194: 706-712.
7. Jhon, D., et al. 1993. Cloning, sequencing, purification and G_q-dependent activation of phospholipase C-β3. J. Biol. Chem. 268: 6654-6661

CHROMOSOMAL LOCATION

Genetic locus: PLCB4 (human) mapping to 20p12.3; Plcb4 (mouse) mapping to 2 F3.

SOURCE

PLC β4 (56) is a mouse monoclonal antibody raised against amino acids 752-961 of PLC β4 of human origin.

PRODUCT

Each vial contains 50 µg IgG_1 in 500 µl of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

RESEARCH USE

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

APPLICATIONS

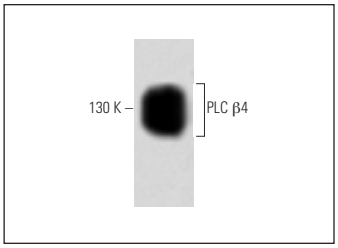
PLC β4 (56) is recommended for detection of PLC β4 of mouse, rat, human and *Drosophila melanogaster* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PLC β4 siRNA (h): sc-36274, PLC β4 siRNA (m): sc-36275, PLC β4 shRNA Plasmid (h): sc-36274-SH, PLC β4 shRNA Plasmid (m): sc-36275-SH, PLC β4 shRNA (h) Lentiviral Particles: sc-36274-V and PLC β4 shRNA (m) Lentiviral Particles: sc-36275-V.

Molecular Weight of PLC β4: 145 kDa.

Positive Controls: ES-2 cell lysate: sc-24674, A549 cell lysate: sc-2413 or rat cerebellum extract: sc-2398.

DATA



PLC β4 (56): sc-136041. Western blot analysis of PLC β4 expression in rat pituitary tissue extract.

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 for detailed protocols and support products.