

PLC β 3 (I-20): sc-31761

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 β 1, PLC β 2, PLC β 3, PLC β 4, PLC γ 1, PLC γ 2, PLC δ 1 and PLC δ 2). 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 phosphorylation. In contrast, activation of PLC β 1, PLC β 2 and PLC β 3 is mediated by the α subunits of the G_q class of heterotrimeric G proteins and by certain $\beta\gamma$ G protein subunits. The regulatory mechanisms for PLC δ 1 and PLC δ 2 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 C δ 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. Jhon, D., et al. 1993. Cloning, sequencing, purification and G_q -dependent activation of phospholipase C- β 3. J. Biol. Chem. 268: 6654-6661.

CHROMOSOMAL LOCATION

Genetic locus: PLCB3 (human) mapping to 11q13.1; Plcb3 (mouse) mapping to 19 A.

SOURCE

PLC β 3 (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PLC β 3 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-31761 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4 $^{\circ}$ C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

PLC β 3 (I-20) is recommended for detection of PLC β 3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 β 3 (I-20) is also recommended for detection of PLC β 3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLC β 3 siRNA (h): sc-36272, PLC β 3 siRNA (m): sc-36273, PLC β 3 siRNA (r): sc-156124 PLC β 3 shRNA Plasmid (h): sc-36272-SH, PLC β 3 shRNA Plasmid (m): sc-36273-SH, PLC β 3 shRNA Plasmid (r): sc-156124-SH PLC β 3 shRNA (h) Lentiviral Particles: sc-36272-V, PLC β 3 shRNA (m) Lentiviral Particles: sc-36273-V and PLC β 3 shRNA (r) Lentiviral Particles: sc-156124-V.

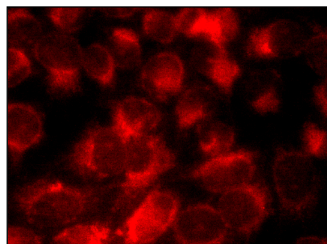
Molecular Weight of PLC β 3: 152 kDa.

Positive Controls: A-431 cell lysate: sc-2201, MCF7 cell lysate: sc-2206 or U-937 cell lysate: sc-2239.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz MarkerTM compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz MarkerTM Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruzTM Mounting Medium: sc-24941.

DATA



PLC β 3 (I-20): sc-31761. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

RESEARCH USE

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

MONOS
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Try PLC β 3 (D-7): sc-133231 or PLC β 3 (H-3): sc-133140, our highly recommended monoclonal alternatives to PLC β 3 (I-20).