SANTA CRUZ BIOTECHNOLOGY, INC.

PLC β4 (H-300): sc-20760

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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 a 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 as yet not resolved.

CHROMOSOMAL LOCATION

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

SOURCE

PLC β4 (H-300) is a rabbit polyclonal antibody raised against amino acids 876-1115 of PLC β4 of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

PLC β4 (H-300) is recommended for detection of PLC β4 of mouse, rat and human 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)], 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 β4 (H-300) is also recommended for detection of PLC β4 in additional species, including equine, canine, bovine, porcine and avian.

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.

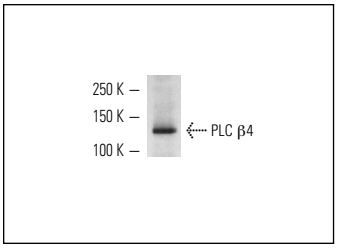
Molecular Weight of PLC β4: 145 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PLC β4 (H-300): sc-20760. Western blot analysis of PLC β4 expression in rat cerebellum tissue extract.

SELECT PRODUCT CITATIONS

1. Wilson, S.L., et al. 2011. Spatially restricted and developmentally dynamic expression of engrailed genes in multiple cerebellar cell types. Cerebellum 10: 356-372.
2. White, J.J. and Sillitoe, R.V. 2013. Postnatal development of cerebellar zones revealed by neurofilament heavy chain protein expression. Front. Neuroanat. 7: 9.
3. Chun, Y.S., et al. 2013. Impaired N-cadherin-mediated adhesion increases the risk of inducible ventricular arrhythmias in isolated rat hearts. Sci. Res. Essays 7: 2983-2991.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.