SANTA CRUZ BIOTECHNOLOGY, INC.

PC-PLD2 (V-20): sc-48270

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Virtually every cell uses phosphatidylcholine as a substrate to produce phosphatidic acid and choline. Phosphatidylcholine phospholipase D1 and D2 (PC-PLD1 and PC-PLD2) are phospholipid-specific phosphodiesterases that hydrolyze phosphatidylcholine. Unlike PC-PLD1, which associates with secretory granules, PC-PLD2 localizes to the plasma membrane, where it is implicated in the formation of endocytotic vesicles. Both PC-PLD1 and PC-PLD2 coordinately regulate macrophage phagocytosis. PC-PLD activity in mammalian cells is transiently stimulated upon activation by G protein-coupled and receptor tyrosine kinase cell surface receptors. For example, PC-PLD1 and PC-PLD2 participate in sphingosine 1-phosphate stimulation of ERK phosphorylation and IL-8 secretion in bronchial epithelial cells. In addition, Tubulin binding to PC-PLD2 inhibits muscarinic receptor-linked PC-PLD2 activation. PC-PLD2 also enhances PKCζ activity through direct interaction in a lipase activity-independent manner. PC-PLD1 and PC-PLD2 stimulate cell growth by repressing expression of p21 gene through p53-dependent and p53-independent pathways, respectively, which may ultimately lead to carcinogenesis.

CHROMOSOMAL LOCATION

Genetic locus: PLD2 (human) mapping to 17p13.2; Pld2 (mouse) mapping to 11 B3.

SOURCE

PC-PLD2 (V-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within the catalytic domain of PC-PLD2 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.

Blocking peptide available for competition studies, sc-48270 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PC-PLD2 (V-20) is recommended for detection of isoforms PC-PLD2A and PC-PLD2B 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).

PC-PLD2 (V-20) is also recommended for detection of isoforms PC-PLD2A and PC-PLD2B in additional species, including equine.

Suitable for use as control antibody for PC-PLD2 siRNA (h): sc-44001, PC-PLD2 siRNA (m): sc-61367, PC-PLD2 shRNA Plasmid (h): sc-44001-SH, PC-PLD2 shRNA Plasmid (m): sc-61367-SH, PC-PLD2 shRNA (h) Lentiviral Particles: sc-44001-V and PC-PLD2 shRNA (m) Lentiviral Particles: sc-61367-V

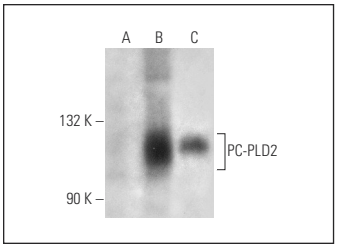
Molecular Weight of PC-PLD2: 117 kDa.

Positive Controls: PC-PLD2 (h5): 293T Lysate: sc-129413, U-937 cell lysate: sc-2239 or Hep G2 cell lysate: sc-2227.

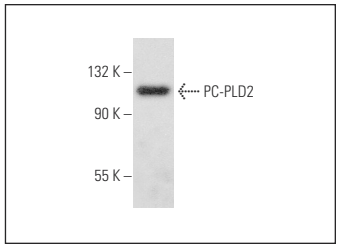
RECOMMENDED SECONDARY REAGENTS

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 Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 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 UltraCruz™ Mounting Medium: sc-24941.

DATA



PC-PLD2 (V-20): sc-48270. Western blot analysis of PC-PLD2 expression in non-transfected 293T: sc-117752 (**A**), human PC-PLD2 transfected 293T: sc-129413 (**B**) and U-937 (**C**) whole cell lysates.



PC-PLD2 (V-20): sc-48270. Western blot analysis of PC-PLD2 expression in Hep G2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Han, X., et al. 2011. InlB-mediated *Listeria monocytogenes* internalization requires a balanced phospholipase D activity maintained through phosphocofilin. Mol. Microbiol. 81: 860-880.

STORAGE

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

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.