

# PC-PLD1 (S-20): sc-17847

## 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 PKC $\zeta$  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: PLD1 (human) mapping to 3q26.31; Pld1 (mouse) mapping to 3 A3.

## SOURCE

PC-PLD1 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PC-PLD of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-17847 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PC-PLD1 (S-20) is recommended for detection of PC-PLD1 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), immunohistochemistry (including paraffin-embedded sections) (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-PLD1 (S-20) is also recommended for detection of PC-PLD1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PC-PLD1 siRNA (h): sc-44000, PC-PLD1 siRNA (m): sc-41629, PC-PLD1 shRNA Plasmid (h): sc-44000-SH, PC-PLD1 shRNA Plasmid (m): sc-41629-SH, PC-PLD1 shRNA (h) Lentiviral Particles: sc-44000-V and PC-PLD1 shRNA (m) Lentiviral Particles: sc-41629-V.

Molecular Weight of PC-PLD1 $\alpha$ : 120 kDa.

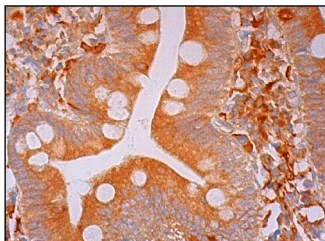
Molecular Weight of PC-PLD1 $\beta$ : 115 kDa.

Positive Controls: MCF7 + Insulin cell lysate: sc-24733, HeLa whole cell lysate: sc-2200 or Caki-1 cell lysate: sc-2224.

## 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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



PC-PLD1 (S-20): sc-17847. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells and interstitial cells.

## 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](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **PC-PLD1 (F-12): sc-28314**, our highly recommended monoclonal alternative to PC-PLD1 (S-20).