

# PLC $\delta$ 3 (L-15): sc-30826

## BACKGROUND

Phosphoinositide-specific phospholipase C (PLC) plays a crucial 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. There are many mammalian PLC isozymes, including PLC  $\beta$ 1, PLC  $\beta$ 2, PLC  $\beta$ 3, PLC  $\beta$ 4, PLC $\gamma$ 1, PLC $\gamma$ 2, PLC  $\delta$ 1, PLC  $\delta$ 2 and PLC $\epsilon$ . PLC $\delta$  exists as four different isoforms. PLC  $\delta$ 1, a calcium signal amplifier, is activated by an atypical GTP-binding protein. In addition, PLC  $\delta$ 1 is an effector for GTP-binding protein transglutaminase II-mediated oxytocin receptor and  $\alpha$ 1B-adrenoreceptor signaling. Mouse PLC  $\delta$ 1 is highly expressed in brain, heart, lung and testis. PLC  $\delta$  is abnormally accumulated in autopsied brains with Alzheimer's disease (AD), suggesting that it may play a role in the pathology of AD. PLC  $\delta$ 2 is markedly expressed in type II intestinal metaplasia and in the adenocarcinoma. When PLC  $\delta$ 2 is expressed in type I intestinal metaplasia, the metaplasia is generally considered benign, yet evolves toward neoplastic transformation. Thus, PLC  $\delta$ 2 expression may be a possible marker of gastric malignant transformation.

## REFERENCES

1. Ghosh, S., et al. 1997. Phospholipase C isoforms  $\delta$  1 and  $\delta$  3 from human fibroblasts. High-yield expression in *Escherichia coli*, simple purification and properties. *Protein Expr. Purif.* 9: 262-278.
2. Pawelczyk, T., et al. 1997. Expression, purification and kinetic properties of human recombinant Phospholipase C  $\delta$  3. *Acta. Biochim. Pol.* 44: 221-229.
3. Kim, H., et al. 1999. Assignment of the human PLC  $\delta$ 3 gene (PLCD3) to human chromosome band 17q21 by fluorescence *in situ* hybridization. *Cytogenet. Cell Genet.* 87: 209-210.
4. Pawelczyk, T., et al. 1999. Phospholipase C- $\delta$ 3 binds with high specificity to phosphatidylinositol 4,5-bisphosphate and phosphatidic acid in bilayer membranes. *Eur. J. Biochem.* 262: 291-298.

## CHROMOSOMAL LOCATION

Genetic locus: PLCD3 (human) mapping to 17q21.31; Plcd3 (mouse) mapping to 11 E1.

## SOURCE

PLC  $\delta$  3 (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PLC  $\delta$  3 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-30826 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PLC  $\delta$  3 (L-15) is recommended for detection of PLC  $\delta$  3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Suitable for use as control antibody for PLC  $\delta$  siRNA (h): sc-40843, PLC  $\delta$  3 siRNA (m): sc-155939, PLC  $\delta$  shRNA Plasmid (h): sc-40843-SH, PLC  $\delta$  3 shRNA Plasmid (m): sc-155939-SH, PLC  $\delta$  shRNA (h) Lentiviral Particles: sc-40843-V and PLC  $\delta$  3 shRNA (m) Lentiviral Particles: sc-155939-V.

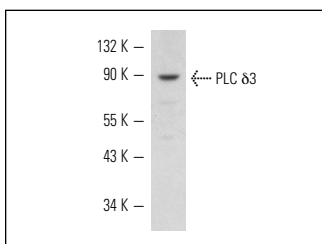
Molecular Weight of PLC  $\delta$  3: 85-90 kDa.

Positive Controls: F9 cell lysate: sc-2245 or NIH/3T3 whole cell lysate: sc-2210.

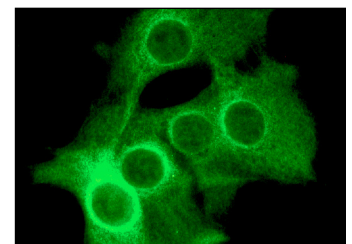
## RECOMMENDED SECONDARY REAGENTS

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



PLC  $\delta$  3 (L-15): sc-30826. Western blot analysis of PLC  $\delta$  3 expression in F9 whole cell lysate.



PLC  $\delta$  3 (L-15): sc-30826. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane localization.

## RESEARCH USE

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

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Try **PLC  $\delta$  3 (E-5): sc-514912**, our highly recommended monoclonal alternative to PLC  $\delta$  3 (L-15).