

# PLC $\delta$ 1 (A-2): sc-365811

## 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 (IP<sub>3</sub>) and diacylglycerol (DAG) from phosphatidylinositol 4,5-bisphosphate. There are several mammalian PLC proteins, including PLC  $\beta$ 1, PLC  $\beta$ 2, PLC  $\beta$ 3, PLC  $\beta$ 4, PLC  $\gamma$ 1, PLC  $\gamma$ 2, PLC  $\delta$ 1, PLC  $\delta$ 3, PLC  $\delta$ 4 and PLC  $\epsilon$ . PLC  $\delta$ 1, a calcium signal amplifier, is activated by an atypical GTP-binding protein and functions as an effector for GTP-binding protein transglutaminase II-mediated oxytocin receptor and  $\alpha$ 1B-adrenoreceptor signaling. PLC  $\delta$ 1 is highly expressed in brain, heart, lung and testis and is abnormally accumulated in autopsied brains with Alzheimer's disease (AD), suggesting that it may play a role in the pathology of AD. Both PLC  $\delta$ 3 and PLC  $\delta$ 4 contain several functional domains through which they bind calcium as a cofactor and catalyze the creation of DAG and IP<sub>3</sub>, playing an essential role in signal transduction. PLC  $\delta$ 4 is highly expressed in skeletal muscle and kidney tissue, as well as in corneal epithelial cells, suggesting a role in the regulation of kidney and ocular function.

## REFERENCES

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## CHROMOSOMAL LOCATION

Genetic locus: PLCD1 (human) mapping to 3p22.2; Plcd1 (mouse) mapping to 9 F3.

## SOURCE

PLC  $\delta$ 1 (A-2) is a mouse monoclonal antibody raised against amino acids 1-140 mapping at the N-terminus of PLC  $\delta$ 1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PLC  $\delta$ 1 (A-2) is recommended for detection of PLC  $\delta$ 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

PLC  $\delta$ 1 (A-2) is also recommended for detection of PLC  $\delta$ 1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLC  $\delta$ 1 siRNA (h): sc-40841, PLC  $\delta$ 1 siRNA (m): sc-40842, PLC  $\delta$ 1 shRNA Plasmid (h): sc-40841-SH, PLC  $\delta$ 1 shRNA Plasmid (m): sc-40842-SH, PLC  $\delta$ 1 shRNA (h) Lentiviral Particles: sc-40841-V and PLC  $\delta$ 1 shRNA (m) Lentiviral Particles: sc-40842-V.

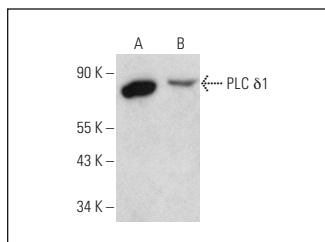
Molecular Weight of PLC  $\delta$ 1: 85 kDa.

Positive Controls: A-10 cell lysate: sc-3806, KNRK whole cell lysate: sc-2214 or F9 cell lysate: sc-2245.

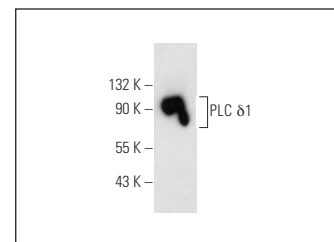
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



PLC  $\delta$ 1 (A-2): sc-365811. Western blot analysis of PLC  $\delta$ 1 expression in KNRK (A) and A-10 (B) whole cell lysates.



PLC  $\delta$ 1 (A-2): sc-365811. Western blot analysis of PLC  $\delta$ 1 expression in F9 whole cell lysate.

## 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.