

# PLC $\beta$ 1 (G-12): sc-205

## 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  $\beta$ 1, one of the PLC  $\beta$  isozymes, exists as two immuno-logically distinguishable proteins, PLC- $\beta$ 1a and PLC  $\beta$ 1b. The two isoforms encode in two distinct transcripts and generated by alternative splicing of a single gene. PLC  $\beta$ 1a is preferentially expressed in the cytosol, whereas PLC  $\beta$ 1b is predominantly localized in the nuclei. PLC  $\beta$ 1 is a G-protein-dependent phosphodiesterase that hydrolyses phosphatidylinositol 4,5 bisphosphate into inositol 1,4,5-triphosphate and diacylglycerol after the stimulation of a variety of neurotransmitter receptors at the cell surface. The C-terminal region of PLC  $\beta$ 1 has G<sub>q</sub> GAP activity and has ability to interact with G<sub>q</sub> and other PLC  $\beta$ 1 molecules.

## CHROMOSOMAL LOCATION

Genetic locus: PLCB1 (human) mapping to 20p12.3; Plcb1 (mouse) mapping to 2 F3.

## SOURCE

PLC  $\beta$ 1 (G-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of PLC  $\beta$ 1 of bovine 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-205 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PLC  $\beta$ 1 (G-12) is recommended for detection of PLC  $\beta$ 1 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), 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).

PLC  $\beta$ 1 (G-12) is also recommended for detection of PLC  $\beta$ 1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLC  $\beta$ 1 siRNA (h): sc-36266, PLC  $\beta$ 1 siRNA (m): sc-36267, PLC  $\beta$ 1 shRNA Plasmid (h): sc-36266-SH, PLC  $\beta$ 1 shRNA Plasmid (m): sc-36267-SH, PLC  $\beta$ 1 shRNA (h) Lentiviral Particles: sc-36266-V and PLC  $\beta$ 1 shRNA (m) Lentiviral Particles: sc-36267-V.

Molecular Weight of PLC  $\beta$ 1: 150 kDa.

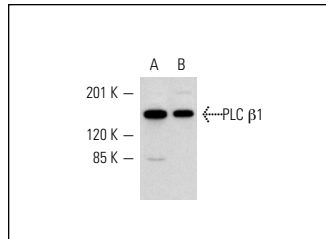
## STORAGE

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

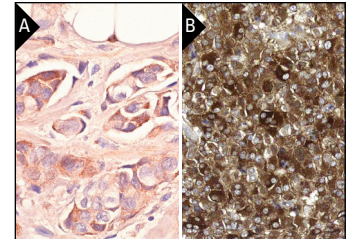
## RESEARCH USE

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

## DATA



PLC  $\beta$ 1 (G-12): sc-205. Western blot analysis of PLC  $\beta$ 1 expression in A-431 (A) and NIH/3T3 (B) whole cell lysates.



PLC  $\beta$ 1 (G-12): sc-205. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing membrane and cytoplasmic staining (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human malignant glioma tissue showing cytoplasmic staining of tumor cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

## SELECT PRODUCT CITATIONS

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- Niehof, M., et al. 2008. HNF4  $\alpha$  and the Ca-channel TRPC1 are novel disease candidate genes in diabetic nephropathy. *Diabetes* 57: 1069-1077.
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Try **PLC  $\beta$ 1 (D-8): sc-5291** or **PLC  $\beta$ 1 (16): sc-136040**, our highly recommended monoclonal alternatives to PLC  $\beta$ 1 (G-12).