

PLC δ 1 (N-19): sc-7520

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 (IP3) and diacylglycerol (DAG) from phosphatidylinositol 4,5-bisphosphate. There are several mammalian PLC proteins, including PLC β 1, PLC β 2, PLC β 3, PLC β 4, PLC γ 1, PLC γ 2, PLC δ 1, PLC δ 3, PLC δ 4 and PLC ϵ . PLC δ 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 α 1B-adrenoreceptor signaling. PLC δ 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 δ 3 and PLC δ 4 contain several functional domains through which they bind calcium as a cofactor and catalyze the creation of DAG and IP3, playing an essential role in signal transduction. PLC δ 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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- Koch, C.A., et al. 1991. SH2 and SH3 domains: elements that control interactions of cytoplasmic signaling proteins. *Science* 252: 668-674.
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- Kim, M.J., et al. 1993. Cloning of cDNA encoding rat phospholipase C β 4, a new member of the phospholipase C. *Biochem. Biophys. Res. Commun.* 194: 706-712.

CHROMOSOMAL LOCATION

Genetic locus: PLCD1 (human) mapping to 3p21.3; Plcd1 (mouse) mapping to 9 F3.

SOURCE

PLC δ 1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PLC δ 1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-7520 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PLC δ 1 (N-19) is recommended for detection of PLC δ 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

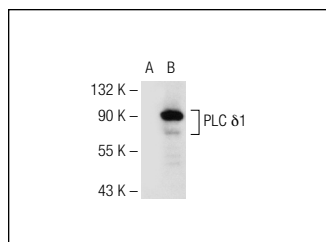
PLC δ 1 (N-19) is also recommended for detection of PLC δ 1 in additional species, including bovine and porcine.

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

Molecular Weight of PLC δ 1: 85 kDa.

Positive Controls: PLC δ 1 (m): 293T Lysate: sc-122626, A-10 cell lysate: sc-3806 or mouse lung extract: sc-2390.

DATA



PLC δ 1 (N-19): sc-7520. Western blot analysis of PLC δ 1 expression in non-transfected: sc-117752 (A) and mouse PLC δ 1 transfected: sc-122626 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

- Piechulek, T., et al. 2005. Isozyme-specific stimulation of phospholipase C- γ 2 by Rac GTPases. *J. Biol. Chem.* 280: 38923-38931.

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.



Try **PLC δ 1 (D-7): sc-393464** or **PLC δ 1 (A-4): sc-365812**, our highly recommended monoclonal alternatives to PLC δ 1 (N-19).