

PLC δ 1 (E-17): sc-31766

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

1. Suh, P., et al. 1988. Inositol phospholipid-specific phospholipase C: complete cDNA and protein sequences and sequence homology to tyrosine kinase-related oncogene products. *Proc. Natl. Acad. Sci. USA* 85: 5419-5423.
2. Emori, Y., et al. 1989. A second type of rat phosphoinositide-specific phospholipase C containing a Src-related sequence not essential for phosphoinositide-hydrolyzing activity. *J. Biol. Chem.* 264: 21885-21890.
3. Meldrum, E., et al. 1991. A second gene product of the inositol-phospholipid-specific phospholipase C δ subclass. *Eur. J. Biochem.* 196: 159-165.
4. Koch, C.A., et al. 1991. SH2 and SH3 domains: elements that control interactions of cytoplasmic signaling proteins. *Science* 252: 668-674.
5. Rhee, S.G., et al. 1992. Regulation of inositol phospholipid-specific phospholipase C isozymes. *J. Biol. Chem.* 267: 12393-12396.

CHROMOSOMAL LOCATION

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

SOURCE

PLC δ 1 (E-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near 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-31766 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PLC δ 1 (E-17) 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).

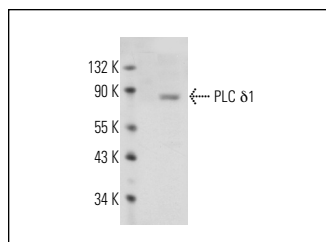
PLC δ 1 (E-17) is also recommended for detection of PLC δ 1 in additional species, including equine, canine, bovine and porcine.

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.

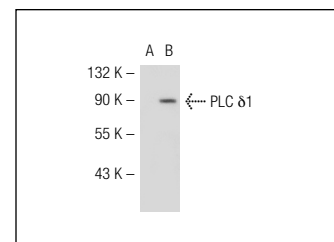
Molecular Weight of PLC δ 1: 85 kDa.

Positive Controls: mouse lung extract: sc-2390, F9 cell lysate: sc-2245 or PLC δ 1 (m): 293T Lysate: sc-122626.

DATA



PLC δ 1 (E-17): sc-31766. Western blot analysis of PLC δ 1 expression in F9 (A) whole cell lysate.



PLC δ 1 (E-17): sc-31766. 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

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 (E-17).