

PLC δ 4 (Q-15): sc-30830

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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CHROMOSOMAL LOCATION

Genetic locus: PLCD4 (human) mapping to 2q35; Plcd4 (mouse) mapping to 1 C3.

SOURCE

PLC δ 4 (Q-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PLC δ 4 of human origin.

STORAGE

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

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-30830 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PLC δ 4 (Q-15) is recommended for detection of PLC δ 4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 4 (Q-15) is also recommended for detection of PLC δ 4 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLC δ 4 siRNA (h): sc-45853, PLC δ 4 siRNA (m): sc-45854, PLC δ 4 shRNA Plasmid (h): sc-45853-SH, PLC δ 4 shRNA Plasmid (m): sc-45854-SH, PLC δ 4 shRNA (h) Lentiviral Particles: sc-45853-V and PLC δ 4 shRNA (m) Lentiviral Particles: sc-45854-V.

Molecular Weight of PLC δ 4: 90 kDa.

Molecular Weight of PLC δ 4 testis specific form: 93 kDa.

Positive Controls: Rat testis extract: sc-2400.

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) 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.

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.