

PLC β 2 (W-20): sc-31757

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 β 1, PLC β 2, PLC β 3, PLC β 4, PLC γ 1, PLC γ 2, PLC δ 1, PLC δ 2 and PLC ϵ . PLC β s are the only PLC isoforms that are regulated by G protein subunits and are activated by a heterotrimeric GTP-binding protein linked to various cell surface receptors. Two alternatively spliced forms (1,181 and 1,166 amino acids) of PLC β 2 are generated in hematopoietic cells that differ in the carboxyl-terminal sequence implicated in interaction of PLC β enzymes with G α q. The pleckstrin homology domain of PLC β 2 is required for its targeting to the membrane and for substrate hydrolysis and its linker region exerts an inhibitory effect on basal PLC β 2 activity. PLC β 2 plays a major role in platelet activation and is mainly expressed in the periphery of the islet and acinar cells in rat pancreas.

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. Rhee, S.G. and Choi, K.D. 1992. Regulation of inositol phospholipid-specific phospholipase C isozymes. *J. Biol. Chem.* 267: 12393-12396.
5. 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: PLCB2 (human) mapping to 15q15.1; Plcb2 (mouse) mapping to 2 E5.

SOURCE

PLC β 2 (W-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PLC β 2 of human origin.

PRODUCT

Each vial contains 100 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-31757 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PLC β 2 (W-20) is recommended for detection of PLC β 2 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), 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 β 2 (W-20) is also recommended for detection of PLC β 2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLC β 2 siRNA (h): sc-36270, PLC β 2 siRNA (m): sc-36271, PLC β 2 shRNA Plasmid (h): sc-36270-SH, PLC β 2 shRNA Plasmid (m): sc-36271-SH, PLC β 2 shRNA (h) Lentiviral Particles: sc-36270-V and PLC β 2 shRNA (m) Lentiviral Particles: sc-36271-V.

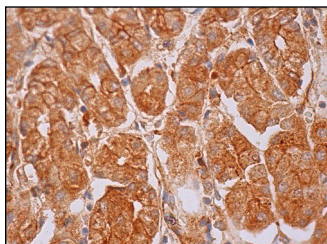
Molecular Weight of PLC β 2: 140 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, HeLa whole cell lysate: sc-2200 or Ramos cell lysate: sc-2216.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



PLC β 2 (W-20): sc-31757. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic and membrane staining of glandular cells.

STORAGE

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

PROTOCOLS

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