BACKGROUND
Phosphoinositide-specific phospholipase C (PLC) plays a critical 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. A total of eight mammalian PLC isoforms have been described (PLCβ1, PLCβ2, PLCβ3, PLCβ4, PLCγ1, PLCγ2, PLCδ1 and PLCδ2). The γ-type enzymes are unique in that they contain SH2 and SH3 domains. Moreover, the two γ-type enzymes, but not the β and δ isozymes, are subject to activation by a number of protein tyrosine kinases which associate with their SH2 domains and induce their activation by phosphorylation. In contrast, activation of PLCβ1, PLCβ2 and PLCβ3 is mediated by the ε subunits of the Gαq class of G q-coupled heterotrimeric G proteins and by certain βγ G protein subunits. PLCβ3 is phosphorylated on Ser 537 in the basal state in cells, and this phosphorylation is enhanced by ionomycin. PLCβ3 is also exclusively phosphorylated on Ser 537 in the X-Y linker region by CaMK II.

REFERENCES

CHROMOSOMAL LOCATION
Genetic locus: PLCB3 (human) mapping to 11q13.1; Plcb3 (mouse) mapping to 19 A.

SOURCE
p-PLCβ3 (Ser 537) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Ser 537 phosphorylated PLCβ3 of human origin.

PRODUCT
Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34392 P (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS
p-PLCβ3 (Ser 537) is recommended for detection of PLCβ3 of mouse, rat and human origin by Western Blotting (starting dilution 1:50-1:500, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

p-PLCβ3 (Ser 537) is also recommended for detection of correspondingly phosphorylated PLCβ3 in additional species, including equine and porcine.

Suitable for use as control antibody for PLCβ3 siRNA (h): sc-36272, PLCβ3 siRNA (m): sc-36273, PLCβ3 shRNA Plasmid: sc-36272-SH, PLCβ3 shRNA Plasmid (m): sc-36273-SH, PLCβ3 shRNA (h) Lentiviral Particles: sc-36272-V and PLCβ3 shRNA (m) Lentiviral Particles: sc-36273-V.

Molecular Weight of p-PLCβ3: 152 kDa.

Positive Controls: PLCβ3 (m): 293T Lysate: sc-122623 or PLCβ3 (h): 293T Lysate: sc-112691.

DATA

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.

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