

p-PLC γ 1 (Tyr 771): sc-293116

BACKGROUND

Phospholipase C γ 1 (PLC γ 1) is an isozyme of the phosphoinositide-specific PLC family, which occupies a central role in hormonal signal transduction pathways and is a substrate for the epidermal growth factor receptor tyrosine kinase. Following activation of Trk B, PLC γ 1 is phosphorylated on Tyrosine 783, Tyrosine 771 and Tyrosine 1253. Tyrosine 783 lies just downstream of the kinase domain in a relatively short sequence motif characteristic of the Trk family of protein-tyrosine kinase receptors. The sequence around Tyrosine 783 fits a consensus sequence for binding PLC γ 1. PLC γ 1 also forms a complex with Trk B consistent with the possibility that one of the Trk B auto-phosphorylation sites provides a binding site for the PLC γ 1 SH2 domains, as is the case for other receptor protein-tyrosine kinases.

REFERENCES

1. Wahl, M.I., et al. 1990. Identification of two epidermal growth factor-sensitive tyrosine phosphorylation sites of phospholipase C γ in intact HSC-1 cells. *J. Biol. Chem.* 265: 3944-3948.
2. Kim, H.K., et al. 1991. PDGF stimulation of inositol phospholipid hydrolysis requires PLC γ 1 phosphorylation on tyrosine residues 783 and 1254. *Cell* 65: 435-441.
3. Carpenter, G., et al. 1992. Growth factor phosphorylation of PLC γ 1. *Ciba Found. Symp.* 164: 223-233.
4. Middlemas, D.S., et al. 1994. Identification of Trk B autophosphorylation sites and evidence that phospholipase C γ 1 is a substrate of the Trk B receptor. *J. Biol. Chem.* 269: 5458-5466.
5. Guiton, M., et al. 1994. Identification of *in vivo* brain-derived neurotrophic factor-stimulated autophosphorylation sites on the Trk B receptor tyrosine kinase by site-directed mutagenesis. *J. Biol. Chem.* 269: 30370-30377.

CHROMOSOMAL LOCATION

Genetic locus: PLCG1 (human) mapping to 20q12; Plcg1 (mouse) mapping to 2 H2.

SOURCE

p-PLC γ 1 (Tyr 771) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 771 of PLC γ 1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

p-PLC γ 1 (Tyr 771) is recommended for detection of Tyr 771 phosphorylated PLC γ 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for PLC γ 1 siRNA (h): sc-29452, PLC γ 1 siRNA (m): sc-36265, PLC γ 1 shRNA Plasmid (h): sc-29452-SH, PLC γ 1 shRNA Plasmid (m): sc-36265-SH, PLC γ 1 shRNA (h) Lentiviral Particles: sc-29452-V and PLC γ 1 shRNA (m) Lentiviral Particles: sc-36265-V.

Molecular Weight of p-PLC γ 1: 155 kDa.

Positive Controls: NIH/3T3 + PMA cell lysate: sc-24748 or Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent) 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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