

# p-PLC $\gamma$ 1 (pY783.27): sc-136186

## BACKGROUND

Phospholipase C  $\gamma$ 1 (PLC  $\gamma$ 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  $\gamma$ 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  $\gamma$ 1. PLC  $\gamma$ 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  $\gamma$ 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  $\gamma$  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  $\gamma$ 1 phosphorylation on tyrosine residues 783 and 1254. *Cell* 65: 435-441.
3. Carpenter, G., et al. 1992. Growth factor phosphorylation of PLC  $\gamma$ 1. *Ciba Found. Symp.* 164: 223-233.

## CHROMOSOMAL LOCATION

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

## SOURCE

p-PLC  $\gamma$ 1 (pY783.27) is a mouse monoclonal antibody raised against a short amino acid sequence containing Tyr 783 phosphorylated PLC  $\gamma$ 1 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG $\gamma$ 1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

p-PLC  $\gamma$ 1 (pY783.27) is recommended for detection of Tyr 783 phosphorylated PLC  $\gamma$ 1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

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

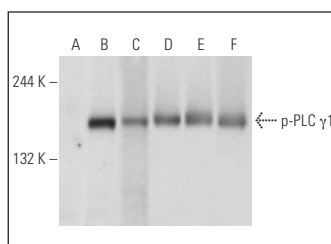
Molecular Weight of p-PLC  $\gamma$ 1: 155 kDa.

Positive Controls: Jurkat + pervanadate cell lysate: sc-24716, Jurkat whole cell lysate: sc-2204 or NIH/3T3 + PMA cell lysate: sc-24748.

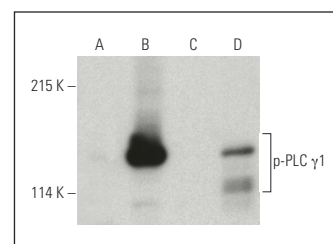
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



Western blot analysis of PLC  $\gamma$ 1 phosphorylation in untreated (A, D), pervanadate treated (B, E) and pervanadate and lambda protein phosphatase treated (C, F) Jurkat whole cell lysates. Antibodies tested include p-PLC  $\gamma$ 1 (pY783.27): sc-136186 (A, B, C) and PLC  $\gamma$ 1 (E-12): sc-7290 (D, E, F).



p-PLC  $\gamma$ 1 (pY783.27): sc-136186. Western blot analysis of PLC  $\gamma$ 1 phosphorylation in untreated Jurkat (A), pervanadate-treated Jurkat (B), untreated SW480 (C) and pervanadate-treated SW480 (D) whole cell lysates. Detection reagent used: m-IgG $\kappa$  BP-HRP: sc-516102.

## SELECT PRODUCT CITATIONS

1. Al-Qudah, M., et al. 2014. Brain-derived neurotrophic factor enhances cholinergic contraction of longitudinal muscle of rabbit intestine via activation of phospholipase C. *Am. J. Physiol. Gastrointest. Liver Physiol.* 306: G328-G337.
2. Lee, H.P., et al. 2017. Tanshinone IIA inhibits angiogenesis in human endothelial progenitor cells *in vitro* and *in vivo*. *Oncotarget* 8: 109217-109227.
3. Saliakoura, M., et al. 2020. PLC  $\gamma$ 1 suppression promotes the adaptation of KRAS-mutant lung adenocarcinomas to hypoxia. *Nat. Cell Biol.* 22: 1382-1395.
4. Abdelli, F., et al. 2021. The role of the calmodulin-binding and calmodulin-like domains of the epidermal growth factor receptor in tyrosine kinase activation. *J. Cell. Physiol.* 236: 4997-5011.

## 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](http://www.scbt.com) for detailed protocols and support products.