PLC γ1 (E-12): sc-7290

**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-trisphosphate and diacylglycerol from phosphatidylinositol 4,5-bisphosphate. There are many mammalian PLC isozymes, including PLC β1, PLC β2, PLC β3, PLC β4, PLC γ1, PLC γ2, PLC δ1, PLC δ2 and PLC ε. PLC γ1 is widely distributed in bronchiolar epithelium, type I and II pneumocytes and fibroblasts of the interstitial tissue. Actin-regulatory protein Villin is tyrosine phosphorylated and associates with PLC γ1 in the brush border of intestinal epithelial cells. Villin regulates PLC γ1 activity by modifying its own ability to bind phosphatidylinositol 4,5-bisphosphate. PLC γ1 binds ε1β1 Integrin and modulates ε1β1 Integrin-specific adhesion. PLC γ1 and Ca²⁺ play a direct role in VEGF-regulated endothelial growth, however this signaling pathway is not linked to FGF-mediated effects in primary endothelial cells. PLC γ1 is rapidly activated in response to growth factor stimulation and plays an important role in regulating cell proliferation and differentiation, and may have a protective function during cellular response to oxidative stress.

**REFERENCES**


**CHROMOSOMAL LOCATION**

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

**SOURCE**

PLC γ1 (E-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1243-1262 near the C-terminus of PLC γ1 of bovine origin (differs from corresponding human sequence by a single amino acid).

**PRODUCT**

Each vial contains 200 µg IgG3 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. PLC γ1 (E-12) is available conjugated to agarose (sc-7290 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7290 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-7290 PE), fluorescein (sc-7290 FITC), Alexa Fluor® 488 (sc-7290 AF488) or Alexa Fluor® 647 (sc-7290 AF647), 200 µg/ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-7290 P. (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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**RESEARCH USE**

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

**APPLICATIONS**

PLC γ1 (E-12) is recommended for detection of PLC γ1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), 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 γ1 (E-12) is also recommended for detection of PLC γ1 in additional species, including bovine.

Suitable for use as control antibody for PLC γ1 siRNA (h): sc-29452, PLC γ1 siRNA (m): sc-36265, PLC γ1 shRNA Plasmid (h): sc-29452-SH, PLC γ1 shRNA Plasmid (m): sc-36265-SH, PLC γ1 shRNA (h) Lentiviral Particles: sc-29452-V and PLC γ1 shRNA (m) Lentiviral Particles: sc-36265-V.

Molecular Weight of PLC γ1: 155 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, KNRK whole cell lysate: sc-2214 or Jurkat whole cell lysate: sc-2204.

**DATA**

PLC γ1 (E-12): sc-7290. Near-infrared western blot analysis of PLC γ1 expression in Jurkat (A), Hep G2 (B), KNRK (C), MDBK (D) and MC7 (E) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

**SELECT PRODUCT CITATIONS**


**STORAGE**

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