

#4510 Store at -20°C

Phospho-PLC γ 1 (Ser1248) Antibody

✓ 100 μ l
(10 western blots)



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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R, Mk	155 kDa	Rabbit**

Background: Phosphoinositide-specific phospholipase C (PLC) plays a significant role in transmembrane signaling. In response to extracellular stimuli such as hormones, growth factors and neurotransmitters, PLC hydrolyzes phosphatidylinositol 4,5-bisphosphate (PIP₂) to generate two secondary messengers: inositol 1,4,5-triphosphate (IP₃) and diacylglycerol (DAG) (1). At least four families of PLCs have been identified: PLC β , PLC γ , PLC δ and PLC ϵ . The PLC β subfamily includes four members, PLC β 1-4. All four members of the subfamily are activated by α - or β - γ -subunits of the heterotrimeric G-proteins (2,3).

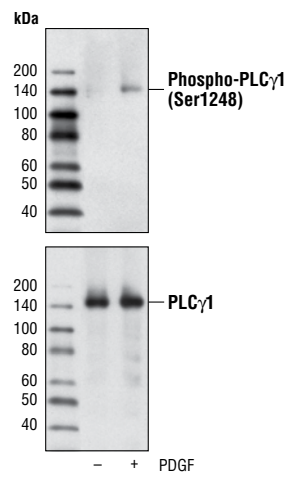
Phosphorylation is one of the key mechanisms that regulates the activity of PLC. Phosphorylation of Ser1105 by PKA or PKC inhibits PLC β 3 activity (4,5). Ser537 of PLC β 3 is phosphorylated by CaMKII, and this phosphorylation may contribute to the basal activity of PLC β 3. PLC γ is activated by both receptor and nonreceptor tyrosine kinases (6).

PLC γ forms a complex with EGF and PDGF receptors, which leads to the phosphorylation of PLC γ at Tyr771, 783 and 1245 (7). Phosphorylation by Syk at Tyr783 activates the enzymatic activity of PLC γ 1 (8).

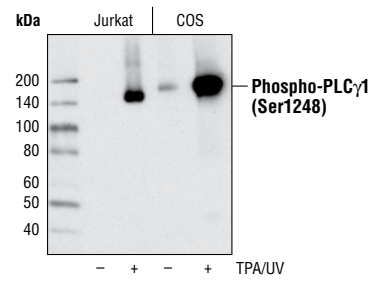
Phosphorylation of PLC γ 1 at Tyr783 by EGFR causes a conformational change of PLC γ 1 that allows the interaction of its SH3 domain with Akt proline-rich motifs. This interaction results in Akt phosphorylation of PLC γ 1 at Ser1248 by Akt (9).

Specificity/Sensitivity: Phospho-PLC γ 1 (Ser1248) Antibody detects PLC γ 1 only when phosphorylated at Ser1248.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser1248 of human PLC γ 1. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from NIH/3T3 cells, untreated or PDGF-treated, using Phospho-PLC γ 1 (Ser1248) Antibody (upper) or PLC γ 1 Antibody #2822 (lower).



Western blot analysis of extracts from Jurkat or COS cells, untreated or TPA/UV treated, using Phospho-PLC γ 1 (Ser1248) Antibody.

Entrez-Gene ID #5335
Swiss-Prot Acc. #P19174

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

*Species cross-reactivity is determined by western blot.

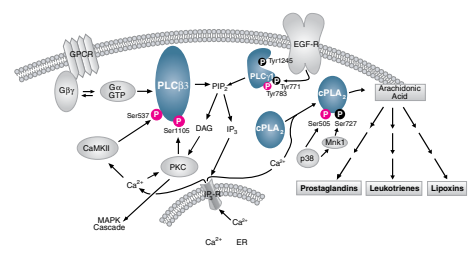
**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:
Western blotting 1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

- Background References:**
- (1) Singer, W. D. et al. (1997) *Annu. Rev. Biochem.* 66, 475-509.
 - (2) Smrcka, A. V. et al. (1991) *Science* 251, 804-807.
 - (3) Taylor, S. J. et al. (1991) *Nature* 350, 516-518.
 - (4) Yue, C. et al. (1998) *J. Biol. Chem.* 273, 18023-18027.
 - (5) Yue, C. et al. (2000) *J. Biol. Chem.* 275, 30220-30225.
 - (6) Margolis, B. et al. (1989) *Cell* 57, 1101-1107.
 - (7) Kim, H. K. et al. (1991) *Cell* 65, 435-441.
 - (8) Wang, Z. et al. (1998) *Mol. Cell. Biol.* 18, 590-597.
 - (9) Wang, Y. et al. (2006) *Mol. Biol. Cell* 17, 2267-2277.



IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

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