

Phospho-PLC γ 2 (Tyr1217) Antibody

✓ 100 μ l
(10 Western mini-blot)

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This product is for *in vitro* research use only and is not intended for use in humans or animals.
This product is not intended for use as a therapeutic or in diagnostic procedures.

Entrez-Gene ID # 5336
Swiss-Prot Acc. # P16885

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R	150 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).

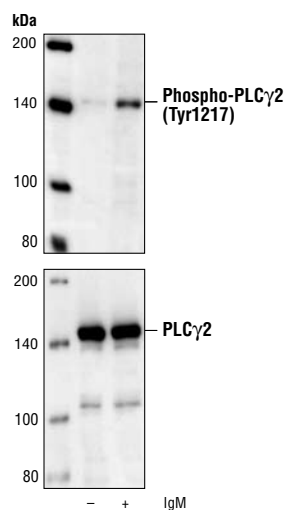
Phosphorylation is one of the key mechanisms that regulates the activity of PLC. Phosphorylation of Ser1105 by PKA or PKC inhibits PLC β 3 activity (4,5). Ser537 of PLC β 3 is phosphorylated by CaMKII, and this phosphorylation may contribute to the basal activity of PLC β 3. PLC γ is activated by both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

PLC γ 2 is engaged in antigen-dependent signaling in B cell and collagen-dependent signaling in platelets. Phosphorylation by Btk or Lck at tyrosines 753, 759, 1197 and 1217 is correlated with PLC γ 2 activity (9,10).

Specificity/Sensitivity: Phospho-PLC γ 2 (Tyr1217) Antibody detects endogenous levels of PLC γ 2 phosphorylated at Tyr1217. This antibody does not cross-react with phosphorylated PLC γ 1.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phospho-peptide (KLH-coupled) corresponding to residues surrounding Tyr1217 of human PLC γ 2. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from Ramos cells, untreated or treated with anti-human IgM using Phospho-PLC γ 2 (Tyr1217) Antibody (upper) or PLC γ 2 Antibody #3872 (lower).

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) Watanabe, D. et al. (2001) *J. Biol. Chem.* 276, 38595-38601.
- (10) Ozdener, F. et al. (2002) *Mol. Pharmacol.* 62, 672-679.

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.

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.

Companion Products:

PLC γ 2 Antibody #3872

Phospho-PLC γ 2 (Tyr759) Antibody #3874

Phospho-PLC γ 1 (Tyr783) Antibody #2821

PLC γ 1 Antibody #2822

Phospho-Lck (Tyr505) Antibody #2751

Lck Antibody #2752

Phototope[®]-HRP Western Blot Detection System, Anti-rabbit IgG, HRP-linked Antibody #7071

Anti-rabbit IgG, HRP-linked Antibody #7074

Prestained Protein Marker, Broad Range (Premixed Format) #7720

Biotinylated Protein Ladder #7727

20X LumiGLO[®] Reagent and 20X Peroxide #7003

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