

Phospho-PLC γ 2 (Tyr1217) Antibody

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H M	Endogenous	150	Rabbit	#P16885	5336

Product Usage Information**Application**

Western Blotting

Dilution

1:1000

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.

Specificity/Sensitivity

Phospho-PLC γ 2 (Tyr1217) Antibody detects endogenous levels of PLC γ 2 phosphorylated at tyrosine 1217. This antibody does not cross-react with phosphorylated PLC γ 1.

Species predicted to react based on 100% sequence homology

Rat

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr1217 of human PLC γ 2. Antibodies are purified by protein A and peptide affinity chromatography.

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 1248 (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).

Background References

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3. Taylor, S.J. et al. (1991) *Nature* 350, 516-8.
4. Yue, C. et al. (1998) *J Biol Chem* 273, 18023-7.
5. Yue, C. et al. (2000) *J Biol Chem* 275, 30220-5.
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7. Kim, H.K. et al. (1991) *Cell* 65, 435-41.
8. Wang, Z. et al. (1998) *Mol Cell Biol* 18, 590-7.
9. Watanabe, D. et al. (2001) *J. Biol. Chem.* 276, 38595-38601.
10. Ozdener, F. et al. (2002) *Mol. Pharmacol.* 62, 672-679.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse

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