

#3871 Store at -20°C

Phospho-PLCγ2 (Tyr1217) Antibody



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB	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 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	Phospho-PLCγ2 (Tyr1217) Antibody detects endogenous levels of PLCγ2 phosphorylated at tyrosine 1217. This antibody does not cross-react with phosphorylated PLCγ1.	
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 PLCγ2. 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: PLCβ, PLCγ, PLCδ and PLCε. The PLCβ subfamily includes four members, PLCβ1-4. 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 PLCβ3 activity (4,5). Ser537 of PLCβ3 is phosphorylated by CaMKII, and this phosphorylation may contribute to the basal activity of PLCβ3. PLCγ is activated by both receptor and nonreceptor tyrosine kinases (6). PLCγ forms a complex with EGF and PDGF receptors, which leads to the phosphorylation of PLCγ at Tyr771, 783 and 1248 (7). Phosphorylation by Syk at Tyr783 activates the enzymatic activity of PLCγ1 (8). PLCγ2 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 PLCγ2 activity (9,10).	
Background References	1. Singer, W.D. et al. (1997) <i>Annu Rev Biochem</i> 66, 475-509. 2. Smrcka, A.V. et al. (1991) <i>Science</i> 251, 804-7. 3. Taylor, S.J. et al. (1991) <i>Nature</i> 350, 516-8. 4. Yue, C. et al. (1998) <i>J Biol Chem</i> 273, 18023-7. 5. Yue, C. et al. (2000) <i>J Biol Chem</i> 275, 30220-5. 6. Margolis, B. et al. (1989) <i>Cell</i> 57, 1101-7. 7. Kim, H.K. et al. (1991) <i>Cell</i> 65, 435-41. 8. Wang, Z. et al. (1998) <i>Mol Cell Biol</i> 18, 590-7. 9. Watanabe, D. et al. (2001) <i>J. Biol. Chem.</i> 276, 38595-38601. 10. Ozdener, F. et al. (2002) <i>Mol. Pharmacol.</i> 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**WB:** Western Blotting**Cross-Reactivity Key**

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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