Revision 6

Store at -20C

#14008

Phospho-PLCγ1 (Tyr783) (D6M9S) Rabbit mAb

Cell Signaling TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, W-S, IP, FC-FP	H M	Endogenous	155	Rabbit IgG	#P19174	5335

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Simple Western™	1:50 - 1:250
Immunoprecipitation	1:50
Flow Cytometry (Fixed/Permeabilized)	1:100 - 1:400

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #36721.

Specificity/Sensitivity

Phospho-PLCγ1 (Tyr783) (D6M9S) Rabbit mAb recognizes endogenous levels of PLCγ1 protein only when phosphorylated at Tyr783.

Species predicted to react based on 100% sequence homology

Rat, Xenopus, Bovine, Dog

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr783 of human PLCγ1 protein.

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 (PIP_2) to generate two secondary messengers: inositol 1,4,5-triphosphate (IP_3) and diacylglycerol (DAG) (1). At least four families of PLCs have been identified: PLCβ, PLCγ, PLCδ, and PLCε. Phosphorylation is one of the key mechanisms that regulate the activity of PLC. PLCγ is activated by both receptor and non-receptor tyrosine kinases (2). PLCγ forms a complex with EGF and PDGF receptors, which leads to the phosphorylation of PLCγ at Tyr771, 783, and 1248 (3). Phosphorylation by Syk at Tyr783 activates the enzymatic activity of PLCγ1 (4). PLCγ2 is engaged in antigen-dependent signaling in B cells and collagen-dependent signaling in platelets. Phosphorylation by Btk or Lck at Tyr753, 759, 1197, and 1217 is correlated with PLCγ2 activity (5,6).

Background References

1. Singer, W.D. et al. (1997) *Annu Rev Biochem* 66, 475-509.
2. Margolis, B. et al. (1989) *Cell* 57, 1101-7.
3. Kim, H.K. et al. (1991) *Cell* 65, 435-41.
4. Wang, Z. et al. (1998) *Mol Cell Biol* 18, 590-7.
5. Watanabe, D. et al. (2001) *J Biol Chem* 276, 38595-601.
6. Ozdener, F. et al. (2002) *Mol Pharmacol* 62, 672-9.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human **M:** Mouse

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