



Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

PLCy2 Antibody

Store at -20C
#3872

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

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

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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

PLCgamma2 Antibody detects endogenous levels of total PLCy2 protein. This antibody does not cross-react with PLCy1.

Species predicted to react based on 100% sequence homology

Rat

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding the carboxy-terminus of human PLCy2. 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). PLCy2 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 PLCy2 activity (9,10).

Background References

1. Singer, W.D. et al. (1997) *Annu Rev Biochem* 66, 475-509.
2. Smrcka, A.V. et al. (1991) *Science* 251, 804-7.
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.
6. Margolis, B. et al. (1989) *Cell* 57, 1101-7.
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 **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.