
Anti-PLC γ 1

Cat #: HM1283
Rabbit polyclonal IgG
0.2 μ g/ μ l, store at 4 °C

For research use only

BACKGROUND

Phospholipase C (PLC) family members catalyze the formation of two second messengers: inositol 1,4,5-trisphosphate and diacylglycerol from phosphatidylinositol 4,5-bisphosphate. They play a crucial role in the initiation of receptor mediated signal transduction. A total of nine mammalian PLC isozymes have been described (PLC β 1, PLC β 2, PLC β 3, PLC β 4, PLC γ 1, PLC γ 2, PLC δ 1, PLC Δ 2 and PLC ϵ) with molecular weights ranging from 85 to 255 kDa. The γ -type enzymes contain SH2 and SH3 domains and can be activated by a number of protein tyrosine kinases, which associate with SH2 domains and induce their activation by phosphorylation. In contrast, activation of PLC β 1, PLC β 2 and PLC γ 3 is mediated by the α subunits of the G_q class of heterotrimeric G proteins and by certain G protein $\beta\gamma$ subunits.

PLC γ 1, a 145-kDa protein, binds alpha1beta1 integrin and modulates cell adhesion. It also plays a direct role in VEGF-regulated endothelial growth.

SPECIFICITY

This antibody specifically reacts with PLC γ 1 of human, mouse and rat origin.

The antibody can be used in Western blotting, immunoprecipitation and immunohistochemistry.

Molecular Weight of PLC γ 1: 155 kDa. Western blotting positive controls: A-431 cell lysate; NIH/3T3 cell lysate.

IMMUNOGEN

A recombinant protein corresponding to the SH2-SH3 domain of rat PLC γ 1.

STORAGE

This antibody is stable for 12 months when stored at 2-8° C.

REFERENCES

1. Rhee, S.G. and Choi, K.D. 1992. Regulation of inositol phospholipid-specific phospholipase C isozymes. *J. Biol. Chem.* 267: 12393-12396.
2. Hwang, S.C., Park, K.H., Ha, M.J., Noh, I.S., Park, T.B., and Lee, Y.H. 1996. Distribution of phospholipase C isozymes in normal human lung tissue and their immunohistochemical localization. *J. Korean Med. Sci.* 11: 305-313.
3. Vossmeier D, Hofmann W, Loster K, Reutter W, Danker K. (2002) Phospholipase Cgamma binds alpha1beta1 integrin and modulates alpha1beta1 integrin-specific adhesion. *J Biol Chem.* 277:4636-43.
4. McLaughlin, A.P. and De Vries, G.W. 2001. Role of PLC gamma and Ca(2+) in VEGF- and FGF-induced choroidal endothelial cell proliferation. *Am. J. Physiol. Cell Physiol.* 281: C1448-1456.

5. Wang, X.T., McCullough, K.D., Wang, X.J., Carpenter, G., and Holbrook, N.J. 2001. Oxidative stress-induced phospholipase C-gamma 1 activation enhances cell survival. *J. Biol. Chem.* 276: 28364-28371.
6. Tvorogov, D. and Carpenter, G. (2002) EGF-dependent association of phospholipase C-gamma1 with c-Cbl. *Exp. Cell Res.* 277, 86-94.
7. Bivona, T.G., Perez De Castro, I., Ahearn, I.M., Grana, T.M., et. al. (2003) Phospholipase Cgamma activates Ras on the Golgi apparatus by means of RasGRP1. *Nature* 424, 694-698.
8. Sekiya, F., Poulin, B., Kim, Y.J. and Rhee, S.G. (2004) Mechanism of tyrosine phosphorylation and activation of phospholipase C-gamma 1. Tyrosine 783 phosphorylation is not sufficient for lipase activation. *J. Biol. Chem.* 279, 32181-32190.

PRODUCTS FROM HYPROMATRIX, INC.**A. AntibodyArray™s:**

1. Signal Transduction AntibodyArray™
Catalog Number HM3000
2. Apoptosis AntibodyArray™
Catalog Number HM4000
3. Cell Cycle AntibodyArray™
Catalog Number HM5000

B. Staining AntibodyArray™s

1. Staining AntibodyArray™ I
Catalog Number HM8100
2. AntibodyArray Staining Apparatus
Catalog Number HM8000

C. Antibodies**1. HRP-conjugated antibodies**

- anti-phosphotyrosine
Catalog Number HM2040
- anti-phosphoserine
Catalog Number HM2070
- anti-phosphothreonine
Catalog Number HM2090

and more...

2. Primary antibodies

Hypromatrix offers a variety of high quality antibodies. For a complete list of antibodies and their specificities, please visit our web site at www.hypromatrix.com.

CONTACT

Hypromatrix, Inc.
100 Barber Avenue
Worcester, MA 01606
USA

Tel: 508-856-7900
Fax: 508-302-0748
Email: contact@hypromatrix.com
Web: www.hypromatrix.com