abcam

Product datasheet

Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [M156] ab41433

KO VALIDATED

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Overview

Product name	Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [M156]
Description	Mouse monoclonal [M156] to Phospholipase C gamma 1/PLC-gamma-1
Host species	Mouse
Tested applications	**Suitable for:** WB, Flow Cyt (Intra)
Species reactivity	**Reacts with:** Mouse, Human **Predicted to work with:** Rat
Immunogen	Synthetic peptide corresponding to Human Phospholipase C gamma 1/PLC-gamma-1 (N terminal).
Positive control	WB: Human A431, Hct116, and Jurkat cells; mouse brain. Flow Cyt (intra): Jurkat cells
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: PBS, 50% Glycerol, 0.1% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	M156
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab41433 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★☆ **(2)**	1/1000. Detects a band of approximately 150 kDa (predicted molecular weight: 150 kDa).
Flow Cyt (Intra)		1/100. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target

Function Plays a role in actin reorganization and cell migration. The production of the second messenger molecules diacylglycerol (DAG) and inositol 1,4,5-trisphosphate (IP3) is mediated by activated phosphatidylinositol-specific phospholipase C enzymes. Major substrate for heparin-binding growth factor 1 (acidic fibroblast growth factor)-activated tyrosine kinase.

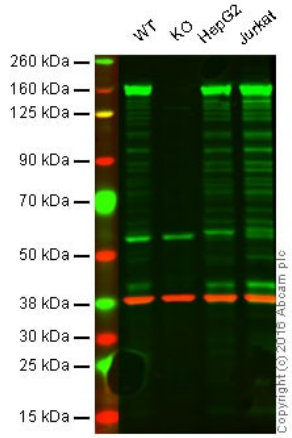
Sequence similarities Contains 1 C2 domain.
Contains 1 EF-hand domain.
Contains 2 PH domains.
Contains 1 PI-PLC X-box domain.
Contains 1 PI-PLC Y-box domain.
Contains 2 SH2 domains.
Contains 1 SH3 domain.

Domain The SH3 domain mediates interaction with CLNK (By similarity). The SH3 domain also mediates interaction with RALGPS1.

Post-translational modifications The receptor-mediated activation of PLC-gamma-1 and PLC-gamma-2 involves their phosphorylation by tyrosine kinases in response to ligation of a variety of growth factor receptors and immune system receptors. May be dephosphorylated by PTPRJ.
Ubiquitinated by CBLB in activated T-cells.

Cellular localization Cell projection > lamellipodium. Cell projection > ruffle. Rapidly redistributed to ruffles and lamellipodia structures in response to epidermal growth factor (EGF) treatment.

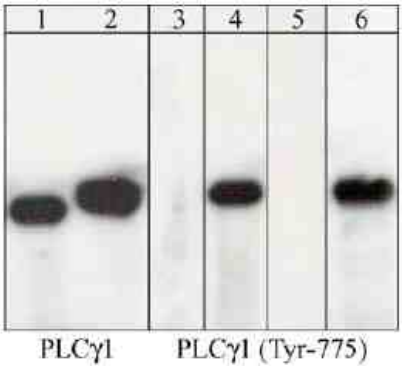
Images



Western blot - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [M156] (ab41433)

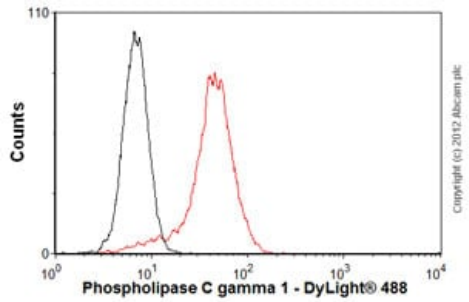
Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: Phospholipase C gamma 1/PLC-gamma-1 knockout HAP1 cell lysate (20 µg)
Lane 3: HepG2 cell lysate (20 µg)
Lane 4: Mouse brain tissue lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab41433 observed at 160 kDa. Red - loading control, **ab181602**, observed at 37 kDa.

ab41433 was shown to recognize Phospholipase C gamma 1/PLC-gamma-1 when Phospholipase C gamma 1/PLC-gamma-1 knockout samples were used, along with additional cross-reactive bands. Wild-type and Phospholipase C gamma 1/PLC-gamma-1 knockout samples were subjected to SDS-PAGE. ab41433 diluted to 1/1000 and **ab181602** (loading control to GAPDH) diluted to 1/10,000 and incubated overnight at 4°C. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (**ab216772**) and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (**ab216777**) secondary antibodies at 1/10,000 dilution for 1 hour at room temperature before imaging.



Western blot - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [M156] (ab41433)

Western blot analysis of Phospholipase C gamma 1/PLC-gamma-1 immunoprecipitates from human jurkat cells untreated (lanes 1 & 3) or treated with pervanadate (1 mM) for 30 min (lanes 2, 4, 5 & 6). Immunoprecipitation was performed with monoclonal anti-Phospholipase C gamma 1/PLC-gamma-1 (ab41433). The blots were probed with anti- Phospholipase C gamma 1/PLC-gamma-1 (lanes 1 & 2) and anti-Phospholipase C gamma 1/PLC-gamma-1 (Tyr-775) (lanes 3-6). The latter antibody was used in the presence of phospho- Phospholipase C gamma 1/PLC-gamma-1 (Tyr-775) peptide (lane 5), or a non-specific phosphotyrosine peptide (lane 6).



Flow Cytometry (Intracellular) - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [M156] (ab41433)

Overlay histogram showing Jurkat cells stained with ab41433 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab41433, 1/100 dilution) for 30 min at 22ºC. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (**ab96879**) at 1/500 dilution for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (**ab91353**, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in Jurkat cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.

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