abcam

ab109501

Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358]

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR5358
Purification technique	Affinity purification Protein A
Concentration	0.189 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information PLCG1

Function	Mediates the production of the second messenger molecules diacylglycerol (DAG) and inositol 1,4,5-trisphosphate (IP3). Plays an important role in the regulation of intracellular signaling cascades. Becomes activated in response to ligand-mediated activation of receptor-type tyrosine kinases, such as PDGFRA, PDGFRB, EGFR, FGFR1, FGFR2, FGFR3 and FGFR4 (By similarity). Plays a role in actin reorganization and cell migration (PubMed:17229814). Guanine nucleotide exchange factor that binds the GTPase DNM1 and catalyzes the dissociation of GDP, allowing a GTP molecule to bind in its place, therefore enhancing DNM1-dependent endocytosis (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Phospholipase C gamma 1 (PLC-gamma-1) also known as PLCG1 or PLC-gamma plays an important role in cellular signaling. This enzyme has a molecular mass of approximately 150 kDa. It is found in multiple cell types but is highly expressed in the brain and immune cells. PLC-gamma-1 is involved in the hydrolysis of phosphatidylinositol 45-bisphosphate (PIP2) to generate inositol 145-trisphosphate (IP3) and diacylglycerol (DAG) leading to downstream signaling events that control various cellular processes.
Biological function summary	PLC-gamma-1 is integral in signal transduction and is an important player in the immune response. The protein does not function as part of a large multi-protein complex but interacts transiently with other signaling molecules. It acts downstream of growth factor receptors and immunoreceptors by mediating calcium release and activation of protein kinase C influencing cell proliferation migration and differentiation. Its expression pattern suggests a critical role in the nervous and immune systems affecting learning memory and immune defense.
Pathways	PLC-gamma-1 is an important component in both the phospholipase C and PLC-gamma pathways. These pathways include important interactions with proteins such as the receptor tyrosine kinases and Src family kinases. In these pathways PLC-gamma-1 modulates signals that guide cellular responses to external stimuli affecting processes like growth signaling and T-cell receptor activation which is vital in adaptive immunity.
Associated diseases and disorders	PLC-gamma-1 has significant connections to cancer and immune deficiencies. Abnormal PLC-gamma-1 activity is observed in certain cancers such as breast cancer where it influences tumor growth and metastasis. Its dysregulation in

immune cells leads to disorders like autoimmune diseases by impacting proteins such as LAT and SLP-76 which are important in T-cell signaling. Understanding PLC-gamma-1's regulatory mechanisms helps in developing targeted therapies for these conditions.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

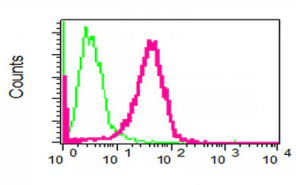
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

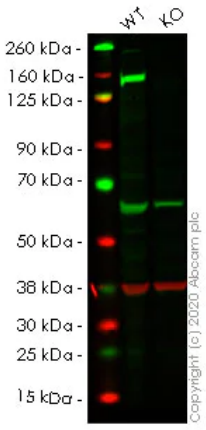
4 product images



Flow Cytometry (Intracellular) - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358] (ab109501)

Phospholipase C gamma 1/PLC-gamma-1 Flow Cytometry (Intracellular) staining using rabbit Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody

Intracellular flow cytometric analysis of permeabilized Jurkat cells using ab109501 at 1/10 dilution (red)or a rabbit IgG (negative) (green).



Western blot - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358] (ab109501)

Phospholipase C gamma 1/PLC-gamma-1 Western blot staining using rabbit Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody

Lanes 1- 2: Merged signal (red and green). Green - ab109501 observed at 160 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.
ab109501 was shown to react with Phospholipase C gamma 1/PLC-gamma-1 in wild-type HEK-293T cells in western blot. Loss of signal was observed when knockout cell line ab266530 (knockout cell lysate ab257590) was used. Wild-type HEK-293T and PLCG1 knockout HEK-293T cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab109501 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at a 1 in 1000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358] (ab109501) at 1/1000 dilution

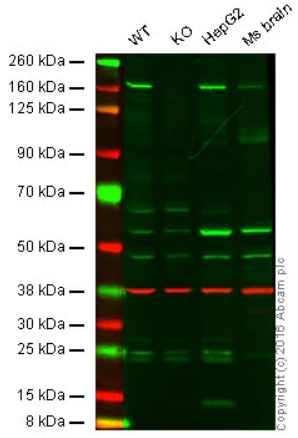
Lane 1:
Wild-type HEK-293T cell lysate at 40 µg/mL

Lane 2:
Western blot - Human PLCG1 (Phospholipase C gamma 1/PLC-gamma-1) knockout HEK-293T cell lysate (ab257590) at 40 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/20000 dilution

Predicted band size: 148 kDa



Western blot - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358] (ab109501)

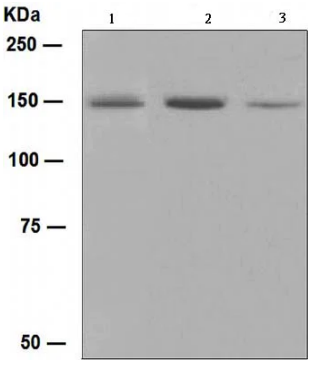
Phospholipase C gamma 1/PLC-gamma-1 Western blot staining using rabbit Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody

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 - ab109501 observed at 160 kDa. Red - loading control, ab8245, observed at 37 kDa.

ab109501 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. ab109501 at a dilution of 1/1000 and ab8245 (loading control to GAPDH) at a dilution of 1/10000 were incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed ab216773 and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed ab216776 secondary antibodies at 1/10000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358] (ab109501)

Predicted band size: 148 kDa



Western blot - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358] (ab109501)

All lanes:
Western blot - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358] (ab109501) at 1/1000 dilution

Lane 1:
HepG2 cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

Lane 3:
MCF-7 cell lysates at 10 µg

Secondary

All lanes:
Standard HRP labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 148 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.