abcam

ab247882

Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR5358
Purification technique	Affinity purification Protein A
Concentration	1.021 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Mouse, Human, Rat
Dilution info	-

Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

IHC-P

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Human, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Expected

Species	Mouse, Human
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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab247882 is the carrier-free version of ab109501.

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

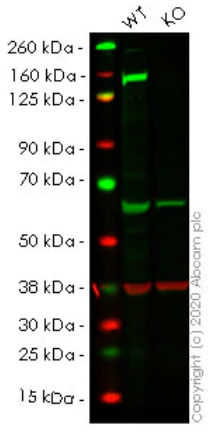
We do not recommend this combination. It is not covered by our product promise.

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.

1 product image



Western blot - Anti-Phospholipase C gamma 1/PLC-gamma-1 antibody [EPR5358] - BSA and Azide free (ab247882)

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

This data was developed using the same antibody clone in a different buffer formulation (ab109501).
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

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