abcam

ab157200

Anti-PLCL1 antibody [EPR11213]

Recombinant | RabMAb

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	EPR11213
Purification technique	Affinity purification Protein A
Concentration	Concentration data is not available right now, please try again later Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/10 - 1/100
Notes	-

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information PLCL1

Function	Involved in an inositol phospholipid-based intracellular signaling cascade. Shows no PLC activity to phosphatidylinositol 4,5-bisphosphate and phosphatidylinositol. Component in the phospho-dependent endocytosis process of GABA A receptor

(By similarity). Regulates the turnover of receptors and thus contributes to the maintenance of GABA-mediated synaptic inhibition. Its aberrant expression could contribute to the genesis and progression of lung carcinoma. Acts as an inhibitor of PPP1C.

Storage

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

Notes

Species reactivity
Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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.

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.

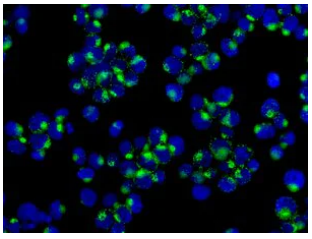
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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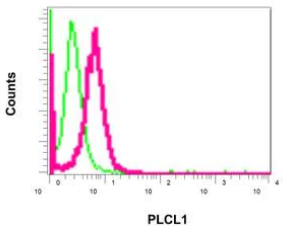
9 product images



Immunocytochemistry/ Immunofluorescence - Anti-PLCL1 antibody [EPR11213] (ab157200)

PLCL1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PLCL1 antibody

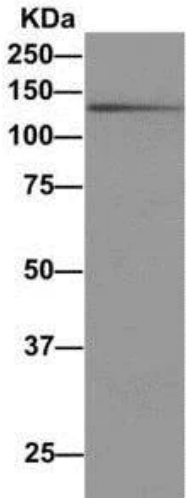
Immunofluorescence analysis of Jurkat cells, labeling PLCL1 using ab157200 at a 1/100 dilution.



Flow Cytometry (Intracellular) - Anti-PLCL1 antibody [EPR11213] (ab157200)

PLCL1 Flow Cytometry (Intracellular) staining using rabbit Anti-PLCL1 antibody

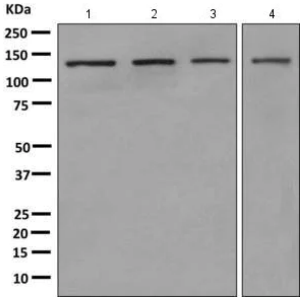
Intracellular Flow Cytometry analysis of permeabilized Jurkat cells labeling PLCL1 (red), using ab157200 at a 1/100 dilution, and negative control cells probed with a Rabbit IgG (green)



Immunoprecipitation - Anti-PLCL1 antibody [EPR11213] (ab157200)

Western blot analysis of Immunoprecipitation pellet from Human fetal brain lysate showing PLCL1, using ab157200 at 1/10 dilution for IP.
All lanes:
Immunoprecipitation - Anti-PLCL1 antibody [EPR11213] (ab157200)

Predicted band size: 123 kDa



Western blot - Anti-PLCL1 antibody [EPR11213] (ab157200)

All lanes:
Western blot - Anti-PLCL1 antibody [EPR11213] (ab157200) at 1/10000 dilution

Lane 1:
Human fetal brain tissue lysate at 10 µg

Lane 2:
Human fetal kidney tissue lysate at 10 µg

Lane 3:
Human fetal lung tissue lysate at 10 µg

Lane 4:
Jurkat lysate at 10 µg

Predicted band size: 123 kDa

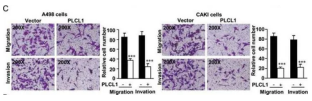


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Immunocytochemistry - Anti-PLCL1 antibody [EPR11213] (ab157200)

PLCL1 Immunocytochemistry staining using rabbit Anti-PLCL1 antibody

Immunocytochemistry using Anti-PLCL1 antibody [EPR11213], ab157200. Publication image from Xiong, Z. et al., 2019, Adv Sci (Weinh), 31131187. Legend direct from paper.

PLCL1 repressed ccRCC progression and promoted tumor cell “slimming” in ccRCC. PLCL1⊠ overexpressing or PLCL1⊠knockdown ccRCC cell lines were constructed by transfecting overexpressing lentivirus and shRNA. The results were plotted as the mean ± SEM of three independent experiments with at least three replicates in each independent experiment. ****, p < 0.0001, ***, p < 0.001, **, p < 0.01, *, p < 0.05. A,B) Cell growth curves of CCK8 assays for indicated cells. C) Migration and invasion assay for indicated ccRCC cells (Magnification: 200x). D) Photomicrographs of Oil Red O staining of PLCL1⊠overexpressing cell lines and the negative control (Magnification: 400x & 800x). Relative TG (mmol/gprot) tested by a triglyceride assay kit, relative diameters of lipid droplets, and relative diameters of cells for ccRCC cells described above. t⊠test, ****, p < 0.0001, ***, p < 0.001, *, p < 0.05. E) Representative photographs of immunofluorescence of UCP1 for cells overexpressing PLCL1 (Magnification: 600x).

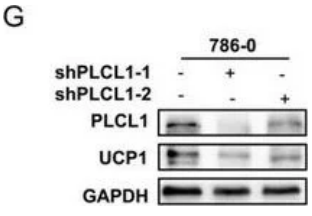


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Western blot - Anti-PLCL1 antibody [EPR11213] (ab157200)

PLCL1 Western blot staining using rabbit Anti-PLCL1 antibody

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PLCL1 upregulated the expression of the lipid browning related gene UCP1 in ccRCC cells. Transcriptome sequencing was performed for A498 cells overexpressing PLCL1. A) GO enrichment for the indicated cells based on the results from sequencing. B) GSEA assays for the correlation of energy metabolism, fatty acid metabolism, and mRNA levels of PLCL1 according to the TCGA database. FDR < 25%, p < 0.05 was considered statistically significant. C) KEGG (Kyoto Encyclopedia of Genes and Genomes) enrichment top 20 for indicated cells based on the results from sequencing. D) The heatmap of cluster analysis based on sequencing results. E) Lipid browning⊠related proteins were determined by western blot analysis. GAPDH was used as a loading control. F) GSEA assays for the correlation of PPAR signaling and mRNA level of PLCL1

according to TCGA database. FDR < 25%, p < 0.05 was considered as statistically significant. G) Western blot assay for the protein levels of PLCL1 and UCP1 in the PLCL1⊠knockdown cells.

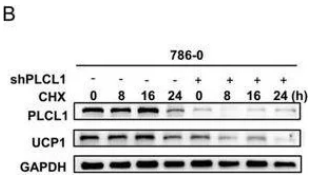


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PLCL1 regulated the protein stability of UCP1 by affecting UCP1 ubiquitination levels in ccRCC. A) Relative mRNA levels of UCP1 in the cells PLCL1⊠overexpressing and PLCL1⊠knockdown cells. p = ns (no significance). B,C) ccRCC cells with stable PLCL1 knockdown and overexpression were treated with cycloheximide (CHX) at the indicated time points. Cells were collected, and UCP1 protein expression was analyzed by western blot. D) Cells with stable PLCL1 knockdown were treated with vehicle (DMSO), MG132 (20 x 10−6m) or chloroquine (50 x 10−6m) for 12 h. Western blotting was used to analyze the protein level of UCP1. E) GO enrichment for the indicated cells based on the results from sequencing. F,G) The cells with stable PLCL1 knockdown and overexpression were lysed and subjected to immunoprecipitation with an antibody against UCP1 and analyzed by western blotting with an anti⊠ubiquitin antibody.

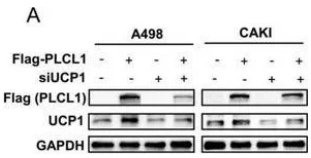


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PLCL1 repressed ccRCC progression and promoted tumor cell “slimming” through UCP1⊠ mediated lipid browning. On the basis of PLCL1 overexpression, cells with UCP1 knocked down were constructed by transfecting UCP1 siRNA. We constructed four groups of cell lines for rescue experiments, including cell lines with PLCL1 expression lentivirus control vector and siUCP1 control, cell lines with PLCL1 expression lentivirus and siUCP1 control, cell lines with PLCL1 expression lentivirus control vector and siUCP1, and cell lines with PLCL1 expression lentivirus and siUCP1. A) Western blot assay for the protein levels of PLCL1 and UCP1 in indicated cells. B) Cell growth curves of CCK8 assays for indicated cells. ***, p < 0.001, **, p < 0.01, p = ns (no significance). C) Migration and invasion assay for indicated ccRCC cells (Magnification: 200x). t⊠ test, ***, p < 0.001, **, p < 0.01, *, p < 0.05, p = ns (no significance). D) Photomicrographs of Oil Red O staining of indicated cells (Magnification: 400x). Relative diameters of lipid droplets and the ccRCC cells described above.

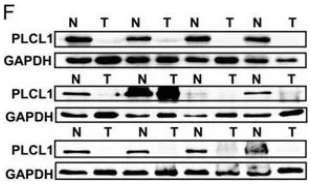


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PLCL1 was downregulated and predicted poor prognosis in ccRCC. A) A Venn diagram of three independent lipid⊠related gene sets from the Oncomine database (https://www.oncomine.org) and the European Bioinformatics Institute (EMBL⊠EBI) (https://www.ebi.ac.uk). (All gene sets are subgene sets of differentially expressed genes in ccRCC.) B) The mRNA levels of PLCL1 and PLCG2 in 533 ccRCC tissues and 72 paired tissues in ccRCC based on data from the TCGA database. (In the color scheme of the heatmap, the colder color represents the lower gene expression level, and the

warmer color represents the higher gene expression level.) t⊠test, p < 0.0001. C) The Kaplan–Meier curves of PLCL1 and PLCG2 in ccRCC for both overall survival (OS) and disease⊠free survival (DFS). D) The ROC (receiver operating characteristic) curves of PLCL1 (AUC = 0.9642 95% CI: 0.9343 to 0.9941; p < 0.0001) and PLCG2 (AUC = 0.9466 95% CI: 0.9253 to 0.9678; p < 0.0001) in ccRCC. E) The mRNA levels of PLCL1 in 30 ccRCC tissues and adjacent nonmalignant tissues. t⊠test, p < 0.0001. F) The protein levels of PLCL1 in ccRCC tissues and adjacent nonmalignant tissues (Abbreviation: N, Normal tissue; T, Tumor tissue). G) The immunohistochemistry (IHC) staining for PLCL1 in ccRCC tissues and adjacent nonmalignant tissues (Magnification: 200x & 400x). H) The mRNA and protein levels in five ccRCC cell lines (786⊠0, A498, ACHN, CAKI, and OSRC) and normal cell line (293). t⊠test, ****p < 0.0001.

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