abcam

ab184174

Anti-PHYHD1 antibody [EPR13313(B)]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 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	EPR13313(B)
Purification technique	Affinity purification Protein A
Concentration	2.151 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

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

ICC/IF

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/400
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information PHYHD1

Function	2-oxoglutarate(2OG)-dependent dioxygenase that catalyzes the conversion of 2-oxoglutarate to succinate and CO(2) in an iron-dependent manner (PubMed:21530488). However, does not couple 2OG turnover to the hydroxylation of acyl-coenzyme A derivatives, implying that it is not directly involved in phytanoyl coenzyme-A metabolism (PubMed:21530488). Does not show detectable activity towards fatty acid CoA thioesters (PubMed:21530488). Isoform 2. Isoform 2 probably lacks enzyme activity. Isoform 3. Isoform 3 probably lacks enzyme activity.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
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	The PHYHD1 protein also known as Phytanoyl-CoA Dioxygenase Domain Containing 1 functions as an enzyme involved in metabolic processes. It carries out oxidation reactions specifically hydroxylation on specific substrate molecules. PHYHD1 has a molecular mass of approximately 44 kDa making it a moderate-sized protein. Expressed in various tissues including the liver and kidneys PHYHD1 plays a significant role in managing metabolic activity within these regions contributing to cellular homeostasis and overall metabolic health.
Biological function summary	PHYHD1 participates in cellular metabolism by catalyzing reactions that modify fatty acids. This protein is involved in the breakdown of phytanic acid a complex fatty acid. In these reactions PHYHD1 may function independently or as part of larger protein complexes facilitating intricate steps that convert fatty acids into more usable forms. This process represents a significant part of lipid metabolism illustrating PHYHD1's role in maintaining the balance of lipid levels and energy within the cell.
Pathways	Researchers identified PHYHD1 in pathways related to fatty acid metabolism and chain elongation. In the context of the peroxisomal alpha-oxidation pathway PHYHD1 interacts with important proteins such as Peroxin and Phytanoyl-CoA alpha-hydroxylase which together assist in processing certain fatty acids. Additionally PHYHD1 links to other metabolic pathways involving oxidation reactions highlighting its central role in modulating lipid and energy metabolism.
Associated diseases and disorders	Studies associate PHYHD1 with conditions such as Refsum Disease and disorders of fatty acid metabolism. Refsum Disease a genetic disorder involving the accumulation of phytanic acid sees a loss or reduction in PHYHD1 activity leading to severe symptoms. Through these associations PHYHD1 interacts with proteins like the phytanoyl-CoA hydroxylase enzyme exemplifying its critical role in the

breakdown of fatty acids and linking its activity directly to disease state development and progression.

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

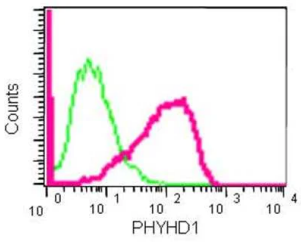
We do not recommend this combination. It is not covered by our product promise.

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.

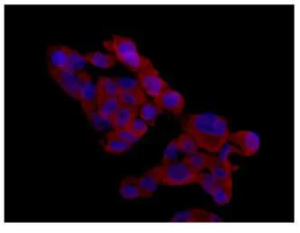
3 product images



Flow Cytometry (Intracellular) - Anti-PHYHD1 antibody [EPR13313(B)] (ab184174)

PHYHD1 Flow Cytometry (Intracellular) staining using rabbit Anti-PHYHD1 antibody

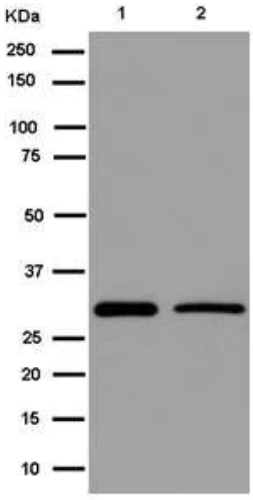
Intracellular Flow Cytometry analysis of HepG2 cells fixed in 2% paraformaldehyde labeling PHYHD1 with ab184174 at 1/400 dilution (red). Goat andti rabbit IgG (FITC) was used at 1/150 dilution as secondary antibody. Rabbit monoclonal IgG was used as an isotype control (green).



Immunocytochemistry/ Immunofluorescence - Anti-PHYHD1 antibody [EPR13313(B)] (ab184174)

PHYHD1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-PHYHD1 antibody

Immunofluorescent analysis of HepG2 cells fixed in 4% paraformaldehyde labeling PHYHD1 with ab184174 at 1/500 dilution. Goat anti-rabbit IgG(Alexa Fluor® 555) was used at 1/200 dilution for secondary antibody and the cells were counterstained with DAPI.



Western blot - Anti-PHYHD1 antibody [EPR13313(B)] (ab184174)

PHYHD1 Western blot staining using rabbit Anti-PHYHD1 antibody

5% NFDM/TBST blocking/diluting buffer
All lanes:
Western blot - Anti-PHYHD1 antibody [EPR13313(B)] (ab184174) at 1/10000 dilution

Lane 1:
Human fetal liver tissue lysate at 20 µg

Lane 2:
Human fetal kidney tissue lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Predicted band size: 32 kDa

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