abcam

ab250986

Anti-ECH1 antibody [EPR15449(B)] - 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	EPR15449(B)

Reactivity data

IP

Expected

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

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Expected

Species	Human
Dilution info	-
Notes	For antigen retrieval, heat up to 98 degree C, below boiling, and then let cool for 10-20 minutes.

ICC/IF

Expected

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

Flow Cyt (Intra)

Expected

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

Target data

See full target information Delta(3,5)-Delta(2,4)-dienoyl-CoA isomerase, mitochondrial

Function	Isomerization of 3-trans,5-cis-dienoyl-CoA (3E,5Z-dienoyl-CoA) to 2-trans,4-trans-dienoyl-CoA (2E,4E-dienoyl-CoA), a crucial step in the beta-oxidation of unsaturated fatty acids with double bonds at odd position.

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

ab250986 is the carrier-free version of ab189255.

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	ECH1 also known as Delta(35)-Delta(24)-dienoyl-CoA isomerase is a mitochondrial protein with a mass of approximately 31 kDa. It is expressed in a wide variety of tissues including high levels in the liver heart and muscle. This protein plays an important role in the beta-oxidation of unsaturated fatty acids inside mitochondria

	by catalyzing the conversion of 35-dienoyl-CoA to 24-dienoyl-CoA. Because of this function ECH1 contributes to the efficient metabolism of fatty acids.
Biological function summary	The ECH1 protein facilitates the breakdown and utilization of unsaturated fatty acids thereby providing energy for cellular processes. It acts independently and is not a part of a large protein complex. Mitochondria rely on ECH1 to handle specific intermediates in fatty acid metabolism which impacts how cells manage their energy resources. This makes ECH1 essential for maintaining energy homeostasis particularly during periods of increased metabolic demand.
Pathways	ECH1 is integral to the mitochondrial fatty acid beta-oxidation pathway. This pathway is important for converting fatty acids into acetyl-CoA units which then enter the Krebs cycle for further energy production. ECH1 interacts with other proteins like ACAA2 which contributes to the final step of fatty acid degradation. Alongside this it aligns with the peroxisomal biogenesis pathway influencing the balance between metabolic processes within mitochondria and peroxisomes.
Associated diseases and disorders	ECH1 activity impacts conditions such as metabolic syndrome and inherited disorders of mitochondrial fatty acid oxidation including Medium-chain acyl-CoA dehydrogenase (MCAD) deficiency. Changes in the function or expression of ECH1 can lead to accumulation of fatty acid intermediates causing cellular dysfunction. In diseases where energy balance is disrupted like metabolic syndrome ECH1's interaction with proteins like HADHA which assists in the final steps of beta-oxidation becomes significant for understanding and potentially targeting treatments.

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

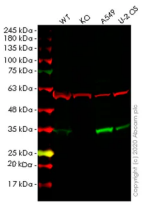
We do not recommend this combination. It is not covered by our product promise.

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-ECH1 antibody [EPR15449(B)] - BSA and Azide free (ab250986)

ECH1 Western blot staining using rabbit Anti-ECH1 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab189255).
Lanes 1-4: Merged signal (red and green). Green - ab189255 observed at 36 kDa. Red - loading control ab7291 observed at 50 kDa.

ab189255 Anti-ECH1 antibody [EPR15449(B)] was shown to specifically react with ECH1 in wild-type HEK293T cells. Loss of signal was observed when knockout cell line ab266748 (knockout cell lysate ab257933) was used. Wild-type and ECH1 knockout samples were subjected to SDS-PAGE. ab189255 and Anti-alpha Tubulin antibody [DM1A] - Loading Control (ab7291) were incubated overnight at 4°C at 1 in 1000 dilution and 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-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255) at 1/1000 dilution

Lane 1:
Wild-type HEK293T cell lysate at 20 µg

Lane 2:
Western blot - Human ECH1 knockout HEK-293T cell lysate (ab257933) at 20 µg

Lane 3:
A549 cell lysate at 20 µg

Lane 4:
U-2 OS cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/10000 dilution

Predicted band size: 36 kDa, 80 kDa

Observed band size: 100 kDa, 36 kDa

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