abcam

ab189255

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

Recombinant | RabMAb | KO Validated

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	EPR15449(B)
Purification technique	Affinity purification Protein A
Concentration	0.113 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/60
Notes	-

WB

Tested

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

ICC/IF

Tested

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

IHC-P

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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	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	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

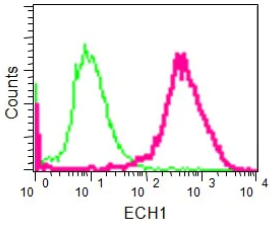
We do not recommend this combination. It is not covered by our product promise.

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.

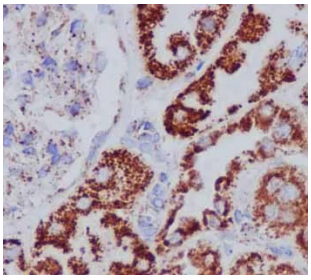
7 product images



Flow Cytometry (Intracellular) - Anti-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255)

ECH1 Flow Cytometry (Intracellular) staining using rabbit Anti-ECH1 antibody

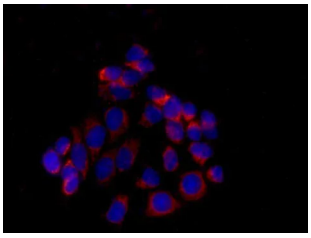
Intracellular flow cytometric analysis of2% paraformaldehyde-fixed Jurkat cells labeling ECH1 with ab189255 at 1/20 dilution (red) compared to aRabbit monoclonal IgG isotype control (green), followed byGoat anti rabbit IgG (FITC) secondary antibody at 1/150 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255)

ECH1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ECH1 antibody

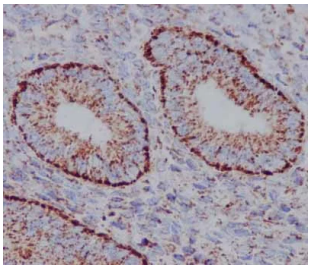
Immunhistochemical analysis of paraffin-embedded human kidney tissue labeling ECH1 with ab189254 at 1/500 dilution, followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin.
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255)

ECH1 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ECH1 antibody

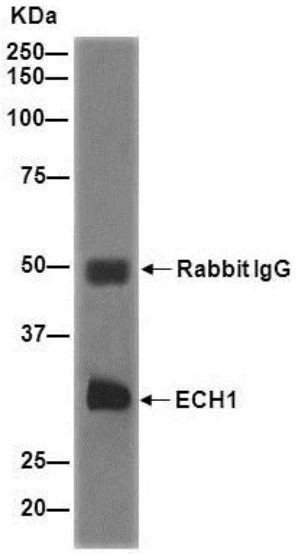
Immunfluorescent analysis of 100% methanol(-20☒)-fixed MCF-7 cells labeling ECH1 with ab189254 at 1/250 dilution, followed by Goat anti rabbit IgG (Alexa Fluor® 555) secondary antibody at 1/200 dilution. Counter stained with DAPI.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255)

ECH1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ECH1 antibody

Immunhistochemical analysis of paraffin-embedded human endometrium tissue labeling ECH1 with ab189254 at 1/500 dilution, followed by prediluted HRP Polymer for Rabbit IgG. Counter stained with Hematoxylin.
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

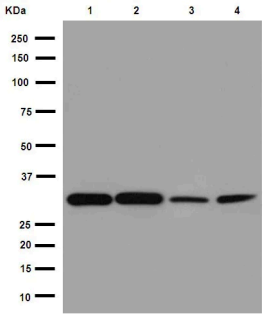


Immunoprecipitation - Anti-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255)

Western blot analysis of ECH1 in human fetal liver lysate immunoprecipitated using ab189254 at 1/50 dilution.
Secondary antibody: Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugate at 1/1000 dilution.

All lanes:
Immunoprecipitation - Anti-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255)

Predicted band size: 36 kDa



Western blot - Anti-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255)

All lanes:
Western blot - Anti-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255) at 1/50000 dilution

Lane 1:
Human fetal liver lysate at 20 µg

Lane 2:
A549 cell lysate at 20 µg

Lane 3:
Jurkat cell lysate at 20 µg

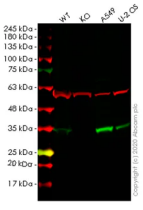
Lane 4:
HeLa cell lysate at 20 µg

Secondary

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

Predicted band size: 36 kDa

Observed band size: 33 kDa



Western blot - Anti-ECH1 antibody [EPR15449(B)] - C-terminal (ab189255)

ECH1 Western blot staining using rabbit Anti-ECH1 antibody

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'.