abcam

ab131376

Anti-ETFDH antibody [3D1AC4AF3]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: 0.877% Sodium chloride, 0.357% HEPES
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	3D1AC4AF3
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL
Notes	(cells fixed and permeabilized with methanol) ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Tested

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Species	Rat
Dilution info	1 µg/mL
Notes	-

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	5 µg/mL
Notes	(paraformaldehyde fixed cells)

Expected

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

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Expected

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

Target data

See full target information ETFDH

Function	Accepts electrons from ETF and reduces ubiquinone.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Avoid freeze / thaw cycle

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ETFDH also known as Electron Transfer Flavoprotein Dehydrogenase plays an important role in transferring electrons within the mitochondrial respiratory chain. With a molecular mass of approximately 65 kDa it is predominantly expressed in tissues with high energy demands such as muscle and liver. ETFDH operates as a component of the electron transport chain facilitating electron transfer from the electron transfer flavoprotein (ETF) to the ubiquinone pool.
Biological function summary	The action of ETFDH assists in fatty acid and amino acid metabolism. As part of the larger electron transport chain complex ETFDH partners with both ETF-alpha and ETF-beta subunits to facilitate electron transfer. This process is key in the oxidation of fatty acids particularly in the beta-oxidation pathway. The functional activity of ETFDH helps convert energy stored in macronutrients into adenosine triphosphate (ATP) a necessary energy currency in cells.
Pathways	ETFDH has a critical role in both the beta-oxidation of fatty acids and the catabolism of certain amino acids. Within these pathways it acts as an intersection between the mitochondria and cellular energy production. ETFDH operates with other proteins such as ACAD9 and ACADVL to ensure efficient energy conversion and maintain cellular homeostasis. These pathways highlight ETFDH's involvement in mitochondrial function and overall energy metabolism.
Associated diseases and disorders	Mutations in the ETFDH gene are linked to conditions like multiple acyl-CoA dehydrogenase deficiency (MADD) and glutaric acidemia type II. These metabolic disorders arise from deficiencies in energy metabolism often leading to severe clinical symptoms. ETFDH's interaction with proteins like ACAD9 can influence the severity and onset of these conditions emphasizing its medical significance in metabolic health. Understanding ETFDH's operation provides insight into potential therapeutic targets for related metabolic diseases.

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

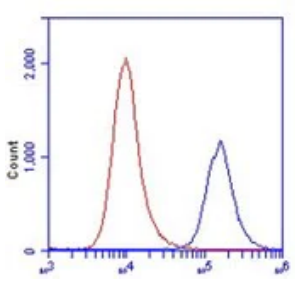
We do not recommend this combination. It is not covered by our product promise.

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.

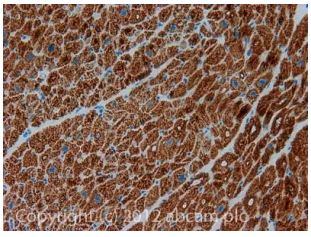
4 product images



Flow Cytometry - Anti-ETFDH antibody [3D1AC4AF3] (ab131376)

ETFDH Flow Cytometry staining using mouse Anti-ETFDH antibody

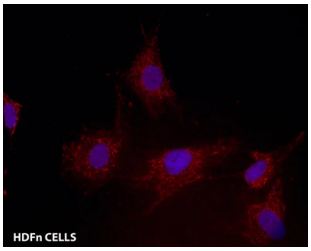
Flow cytometric analysis of ETFDH in HeLa cells fixed and permeabilized with methanol and stained with 1 µg/mL of ab131376 (blue), or an equal amount of an isotype control antibody (red). 1% BSA was used as the blocking reagent for all the blocking steps.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ETFDH antibody [3D1AC4AF3] (ab131376)

ETFDH Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-ETFDH antibody

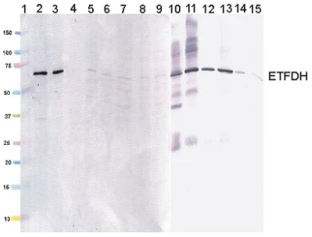
IHC image of ETFDH staining in Human normal heart muscle formalin fixed paraffin embedded tissue section, performed on a Leica BondTM system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab131376, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunocytochemistry/ Immunofluorescence - Anti-ETFDH antibody [3D1AC4AF3] (ab131376)

ETFDH Immunocytochemistry/ Immunofluorescence staining using mouse Anti-ETFDH antibody

Immunofluorescent analysis of ETFDH in HDFn cells.
The cells were paraformaldehyde fixed (4%, 20 minutes) and Triton X-100 permeabilized (0.1%, 15 minutes). The cells were then incubated with ab131376 at 5 µg/ml for 2 h at room temperature, or over night at 4°C. The secondary antibody was (red) Alexa Fluor® 594 Goat anti-Mouse IgG (H+L) used at a 1/1000 dilution for 1 h. 1% BSA was used as the blocking agent for all blocking steps. The target protein locates to the mitochondria.



Western blot - Anti-ETFDH antibody [3D1AC4AF3] (ab131376)

ETFDH Western blot staining using mouse Anti-ETFDH antibody

The high background signal in Mouse tissue sample was caused by the direct reaction between the Mouse IgG in Mouse tissue preps and the Goat anti-Mouse secondary antibody.
All lanes:
Western blot - Anti-ETFDH antibody [3D1AC4AF3] (ab131376) at 1 µg/mL

Lane 1:
Molecular weight marker

Lane 2:
Human Liver Homogenate (HLH) at 10 µg

Lane 3:
Human Heart Homogenate (HHH) at 10 µg

Lane 4:
HepG2 Cell Lysate at 15 µg

Lane 5:
Hela Cell Lysate at 15 µg

Lane 6:
HDFn Cell Lysate at 15 µg

Lane 7:
SY5Y Cell Lysate at 15 µg

Lane 8:
Jurkat Cell Lysate at 15 µg

Lane 9:
Mouse Liver Homogenate (MLH) at 10 µg

Lane 10:
Mouse Heart Homogenate (MHH) at 10 µg

Lane 11:
Rat Liver Homogenate (RLH) at 10 µg

Lane 12:
Rat Heart Homogenate (RHH) at 10 µg

Lane 13:
Rat Brain Homogenate (RBH) at 10 µg

Lane 14:
Rat Kidney Homogenate (RLH) at 10 µg

Lane 15:
Rat Skeletal Muscle Homogenate (RSMH) at 10 µg

Secondary

All lanes:
Goat anti-Mouse AP at 1/3000 dilution

Predicted band size: 68 kDa

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