abcam

ab126616

Anti-ME2 antibody [EPR7218]

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	EPR7218
Purification technique	Affinity purification Protein A
Concentration	1.368 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/1000
Notes	**For unpurified use at 1/50 - 1/100.**

Not recommended

Species	Rat
Dilution info	-
Notes	**For unpurified use at 1/50 - 1/100.**

WB

Tested

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

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

Not recommended

Species	Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/150
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information ME2

Function	NAD-dependent mitochondrial malic enzyme that catalyzes the oxidative decarboxylation of malate to pyruvate.

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	Stable for 12 months at -20°C

Notes

Species reactivity
Mouse: We have preliminary internal testing data to indicate this antibody may not react with this 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.

Supplementary info

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

Activity summary	The protein ME2 also known as mitochondrial malic enzyme 2 is a mitochondrial enzyme with a molecular mass of approximately 65 kDa. It catalyzes the oxidative decarboxylation of malate to pyruvate in the tricarboxylic acid cycle converting NAD+ to NADH. ME2 is primarily expressed in tissues with high metabolic activity such as liver and muscle. The enzyme plays a role in energy production and is found across various species reflecting its evolutionary conservation.
Biological function summary	ME2 is an important regulator of cellular metabolism and part of the mitochondrial malate-aspartate shuttle. The enzyme helps facilitate the transfer of reducing equivalents across the mitochondrial membrane. ME2 does not function alone and might interact with other metabolite transporters in mitochondrial membranes contributing to the balance of metabolic intermediates and maintenance of cellular energy homeostasis.
Pathways	Malate metabolism and energy production involve ME2's role in the tricarboxylic acid cycle and glycolysis. The tricarboxylic acid cycle requires ME2 for effective conversion of nutrients into usable energy. ME2 links with other metabolic enzymes including citrate synthase for efficient energy flow. Additionally the enzyme's activity affects the synthesis of biosynthetic intermediates integrating nutrient signals with bioenergetic demands.
Associated diseases and disorders	ME2 alterations can impact conditions like metabolic syndromes and neurodegenerative diseases. Research indicates ME2 changes might relate to diabetes where altered energy metabolism disrupts insulin signaling. ME2 also bears connection to Alzheimer's disease likely due to its involvement in mitochondrial dysfunction a characteristic of the disorder. Understanding these links can guide therapeutic strategies aimed at correcting metabolic disturbances.

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.

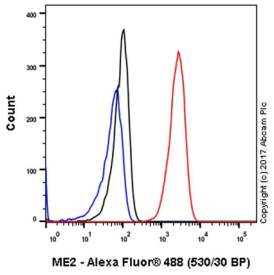
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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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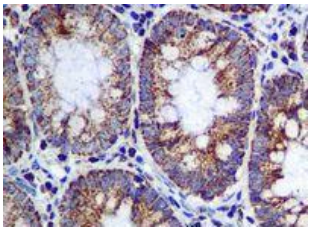
7 product images



Flow Cytometry (Intracellular) - Anti-ME2 antibody [EPR7218] (ab126616)

ME2 Flow Cytometry (Intracellular) staining using rabbit Anti-ME2 antibody

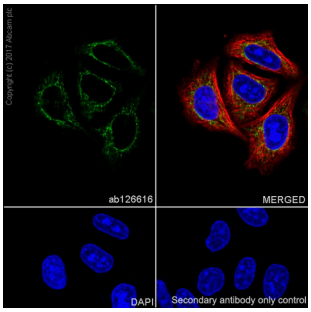
Intracellular Flow Cytometry analysis of Jurkat (Human T cell leukemia T lymphocyte) cells labeling ME2 with purified ab126616 at 1/150 dilution (10 ug/ml) (red). Cells were fixed with 4% Paraformaldehyde and permeabilized with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ME2 antibody [EPR7218] (ab126616)

ME2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ME2 antibody

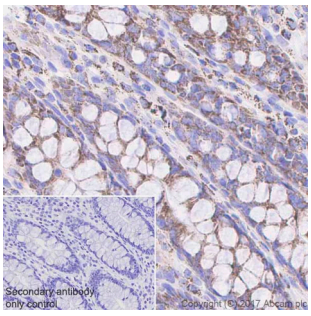
Unpurified ab126616 at 1/50 dilution staining ME2 in Formalin-fixed Paraffin-embedded Human colon tissue by Immunohistochemistry.
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-ME2 antibody [EPR7218] (ab126616)

ME2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ME2 antibody

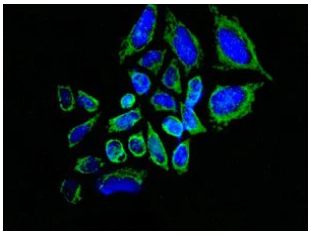
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling ME2 with purified ab126616 at 1:150 dilution (9.1µg/ml). Cells were fixed in 100% Methanol. ab150077 Goat anti rabbit IgG(Alexa Fluor® 488) was used as the secondary antibody at 1:1000 dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ME2 antibody [EPR7218] (ab126616)

ME2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ME2 antibody

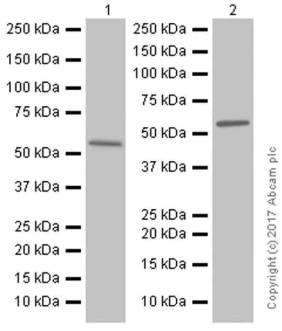
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human colon tissue sections labeling Me2 with Purified ab126616 at 1:1000 dilution (1.4 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer pH 9.0). Tissue was counterstained with Hematoxylin. ImmunoHistoProbe one step HRP Polymer (ready to use) secondary antibody was used at 1:0 dilution. PBS instead of the primary antibody was used as the negative control.



Immunocytochemistry/ Immunofluorescence - Anti-ME2 antibody [EPR7218] (ab126616)

ME2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ME2 antibody

Unpurified ab126616 at 1/100 dilution staining ME2 in HeLa cells by Immunofluorescence.



Western blot - Anti-ME2 antibody [EPR7218] (ab126616)

ME2 Western blot staining using rabbit Anti-ME2 antibody

Blocking and diluting buffer: 5% NFDM/TBST
All lanes:
Western blot - Anti-ME2 antibody [EPR7218] (ab126616) at 1/5000 dilution

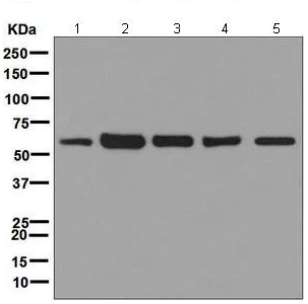
Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 15 µg

Lane 2:
293T (Human embryonic kidney epithelial cell) whole cell lysates at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 65 kDa



Western blot - Anti-ME2 antibody [EPR7218] (ab126616)

All lanes:
Western blot - Anti-ME2 antibody [EPR7218] (ab126616) at 1/1000 dilution

Lane 1:
293T (Human embryonic kidney epithelial cell) cell lysate at 10 µg

Lane 2:
Jurkat cell lysate at 10 µg

Lane 3:
HeLa cell lysate at 10 µg

Lane 4:
K562 cell lysate at 10 µg

Lane 5:
MOLT4 cell lysate at 10 µg

Secondary

All lanes:
Goat Anti-rabbit HRP at 1/2000 dilution

Predicted band size: 65 kDa

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