abcam

ab139686

Anti-ME2 antibody [EP7217]

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	EP7217
Purification technique	Affinity purification Protein A
Concentration	0.2 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	Perform heat-mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

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

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/100
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Predicted

Species	Mouse, 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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C

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.

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

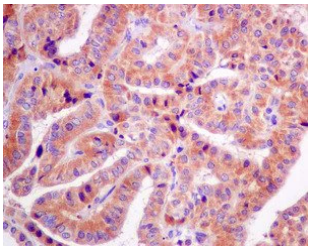
We do not recommend this combination. It is not covered by our product promise.

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.

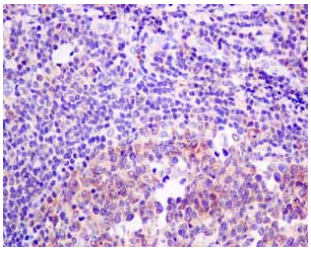
8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ME2 antibody [EP7217] (ab139686)

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

Immunohistochemical analysis of paraffin-embedded Human papillary adenocarcinoma of thyroid tissue labeling ME2 with ab139686 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

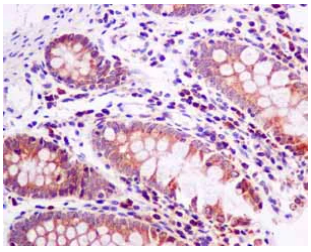


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ME2 antibody [EP7217] (ab139686)

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

Immunohistochemical analysis of paraffin embedded Normal Human Tonsil tissue using ab139686 showing +ve staining.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

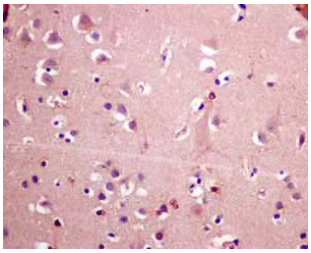


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ME2 antibody [EP7217] (ab139686)

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

Immunohistochemical analysis of paraffin embedded Normal Human Colon tissue using ab139686 showing +ve staining.

Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

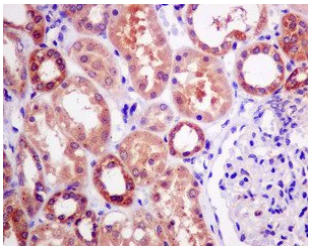


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ME2 antibody [EP7217] (ab139686)

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

Immunohistochemical analysis of paraffin embedded Normal Human Brain tissue using ab139686 showing +ve staining.

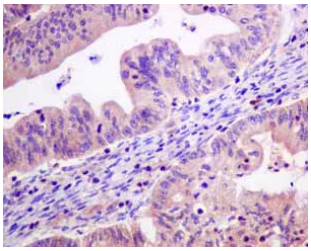
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Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ME2 antibody [EP7217] (ab139686)

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

Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling ME2 with ab139686 at 1/50 dilution.
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.

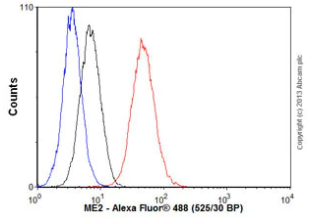


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ME2 antibody [EP7217] (ab139686)

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

Immunohistochemical analysis of paraffin embedded Human Ovarian carcinoma tissue using ab139686 showing +ve staining.

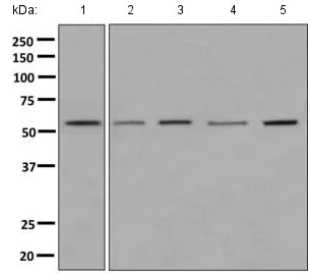
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-ME2 antibody [EP7217] (ab139686)

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

Overlay histogram showing HeLa cells stained with ab139686 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab139686, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was Alexa Fluor® 488 goat anti-rabbit IgG (H&L) (ab150077) at 1/2000 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Unlabelled sample (blue line) was also used as a control. Acquisition of >5,000 events were collected using a 20mW Argon ion laser (488nm) and 525/30 bandpass filter.



Western blot - Anti-ME2 antibody [EP7217] (ab139686)

All lanes:
Western blot - Anti-ME2 antibody [EP7217] (ab139686) at 1/1000 dilution

Lane 1:
Jurkat cell lysate at 10 µg

Lane 2:
K562 cell lysate at 10 µg

Lane 3:
HL60 cell lysate at 10 µg

Lane 4:

293T cell lysate at 10 µg

Lane 5:
HeLa cell lysate at 10 µg

Secondary

All lanes:
HRP labelled goat anti-rabbit 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'.