abcam

ab129095

Anti-Citrate synthetase antibody [EPR8067]

Recombinant | RabMAb | 20ul selling size

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	EPR8067
Purification technique	Affinity purification Protein A
Concentration	0.205 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse
Dilution info	1/250 - 1/500
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/250 - 1/500
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

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

WB

Tested

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

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

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/500
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information Citrate synthase, mitochondrial

Function	Key enzyme of the Krebs tricarboxylic acid cycle which catalyzes the synthesis of citrate from acetyl coenzyme A and oxaloacetate.

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

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	Citrate synthetase also known as citrate synthase is an important enzyme in the tricarboxylic acid cycle. It catalyzes the condensation of acetyl-CoA and oxaloacetate to form citrate and CoA. The enzyme weighs around 49 kilodaltons. It is expressed prominently in the mitochondria of eukaryotic cells where it initiates the Krebs cycle by providing citrate to be further processed. Citrate synthetase is an important point of control within this metabolic cycle.
Biological function summary	Citrate synthetase plays a central role in energy production by converting oxaloacetate and acetyl-CoA into citrate. This enzyme is not known to be part of any larger complex but associates with downstream enzymes such as aconitase in the metabolic pathway. Its activity is essential for cellular respiration impacting the overall metabolic rate of the organism. The concentration of citrate produced serves as a checkpoint both for the continuation of the Krebs cycle and for feedback inhibition of glycolysis.
Pathways	Citrate synthetase is integral to the Krebs cycle and the related oxidative phosphorylation pathway. These pathways are essential for efficient ATP production. Citrate synthetase works closely with enzymes like isocitrate dehydrogenase and alpha-ketoglutarate dehydrogenase within the Krebs cycle. Through these interactions citrate synthetase ensures the proper flow of carbon through the cycle impacting ATP yield and cellular energy homeostasis.
Associated diseases and disorders	Citrate synthetase's function can influence metabolic diseases like diabetes and mitochondrial disorders. Alterations in its activity may contribute to the dysregulation of glucose metabolism seen in diabetes affecting enzymes like glucose transporter 4 (GLUT4). In mitochondrial disorders changes in its normal activity can cause energy production deficiencies influencing proteins such as cytochrome c which is critical in the electron transport chain. Understanding these interactions can help develop therapeutic strategies targeting metabolic pathways.

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

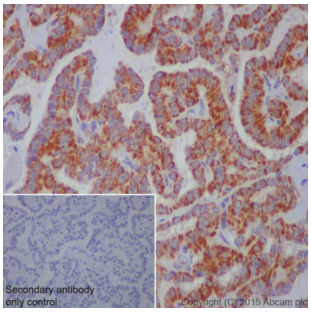
We do not recommend this combination. It is not covered by our product promise.

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.

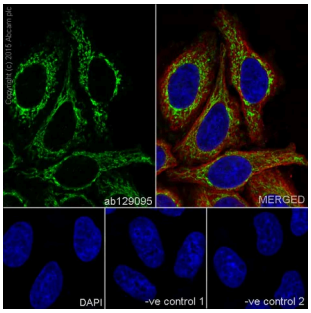
10 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human thyroid carcinoma tissue labelling Citrate synthetase with purified ab129095 at a dilution of 1/250. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



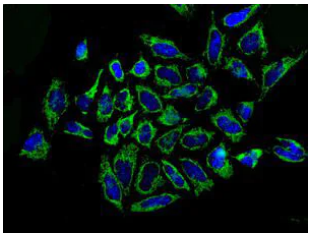
Immunocytochemistry/ Immunofluorescence - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

Citrate synthetase Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Citrate synthetase antibody

Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling Citrate synthetase with purified ab129095 at a dilution of 1/100. Cells were fixed with 4% paraformaldehyde and

permeabilized with 0.1% Triton X-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain. ab7291, a mouse anti-tubulin (1/1000) and ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000) were also used.
Control 1: primary antibody (1/100) and secondary antibody, ab150120, an Alexa Fluor® 594-conjugated goat anti-mouse IgG (1/1000).

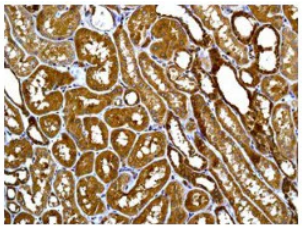
Control 2: ab7291 (1/1000) and secondary antibody, ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000).



Immunocytochemistry/ Immunofluorescence - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

Citrate synthetase Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Citrate synthetase antibody

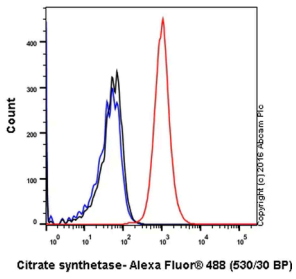
Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling Citrate synthetase with unpurified ab129095 at a dilution of 1/250.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

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

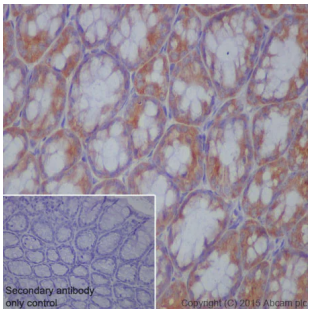
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human kidney tissue labelling Citrate synthetase with unpurified ab129095 at a dilution of 1/250. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

Citrate synthetase Flow Cytometry (Intracellular) staining using rabbit Anti-Citrate synthetase antibody

Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling Citrate synthetase with purified ab129095 at 1/20 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) was used as the unlabeled control.

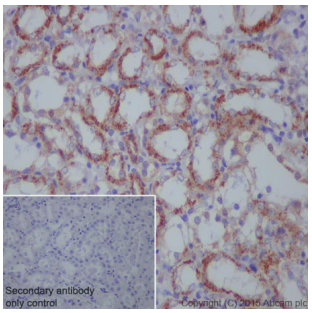


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse colon tissue labelling Citrate synthetase with purified ab129095 at a dilution of 1/250. Heat mediated

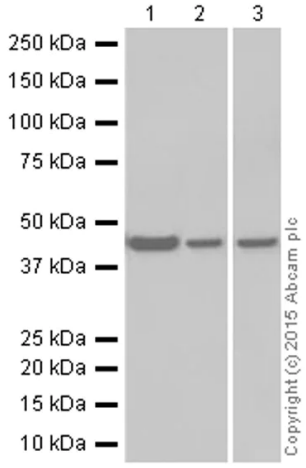
antigen retrieval was performed using EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

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

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat kidney tissue labelling Citrate synthetase with purified ab129095 at a dilution of 1/250. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.



Western blot - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Citrate synthetase antibody [EPR8067] (ab129095) at 1/10000 dilution

Lane 1:
HepG2 whole cell lysate at 20 µg

Lane 2:
Caco-2 whole cell lysate at 20 µg

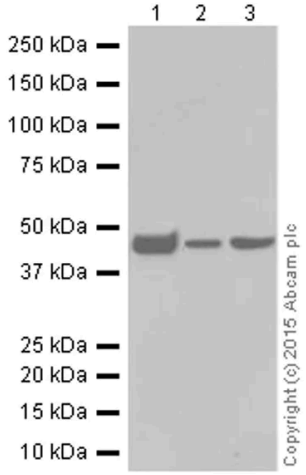
Lane 3:
HeLa whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 51 kDa, 73 kDa

Observed band size: 45 kDa, 78 kDa



Western blot - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

Blocking and dilution buffer: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Citrate synthetase antibody [EPR8067] (ab129095) at 1/10000 dilution

Lane 1:
Mouse brain tissue lysate at 20 µg

Lane 2:
Mouse spleen tissue lysate at 20 µg

Lane 3:

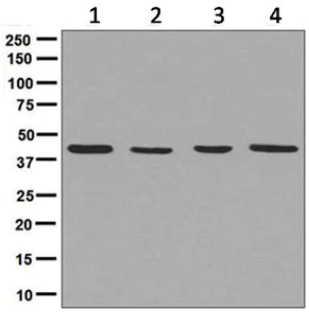
Rat kidney tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 51 kDa

Observed band size: 45 kDa



Western blot - Anti-Citrate synthetase antibody [EPR8067] (ab129095)

All lanes:
Western blot - Anti-Citrate synthetase antibody [EPR8067] (ab129095) at 1/1000 dilution

Lane 1:
HepG2 cell lysates at 10 µg

Lane 2:
Caco-2 cell lysates at 10 µg

Lane 3:
293T cell lysates at 10 µg

Lane 4:
HeLa cell lysates at 10 µg

Secondary

All lanes:
HRP-conjugated goat anti-rabbit IgG at 1/2000 dilution

Predicted band size: 51 kDa

Observed band size: 51 kDa

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