abcam

ab233838

Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free

Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free (ab233838) is a rabbit recombinant monoclonal antibody provided in a PBS only buffer for easy conjugation. Suitable for **Western Blot, Flow Cytometry (Intra), IHC-P, ICC/IF** in **Human, Mouse, Rat**.

- BSA, sodium azide, and glycerol-free for easy conjugation
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR8067
Purification technique	Affinity purification Protein A
Concentration	0.976 - 0.998 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

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

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Expected

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

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Predicted

Species	Mouse, Rat
Dilution info	-
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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

What is this antibody validated in?
Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free (ab233838) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of Citrate synthetase?
Anti-Citrate synthetase [EPR8067] - BSA and Azide free (ab233838) specifically detects a band for Citrate synthetase (UniProt: O75390) at a molecular weight of 51kDa.

Other related products
We have a range of other formats of antibody clone [EPR8067] also available for your convenience: ab129095, Alexa Fluor® 647 - ab196860, HRP - ab196861, Alexa Fluor® 488 - ab197488, Carrier free - ab233838, APC - ab319332, PE - ab319469, Alexa Fluor® 594 - ab319825, Alexa Fluor® 555 - ab319966, Alexa Fluor® 750 - ab321029

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.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

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

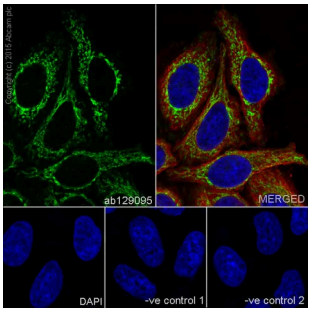
We do not recommend this combination. It is not covered by our product promise.

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.

7 product images



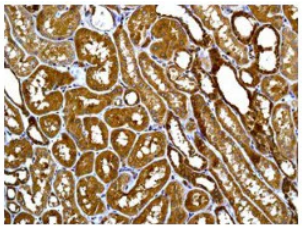
Immunocytochemistry/ Immunofluorescence - Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free (ab233838)

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).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab129095).

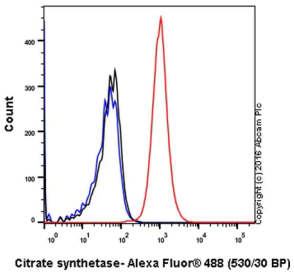


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free (ab233838)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab129095).

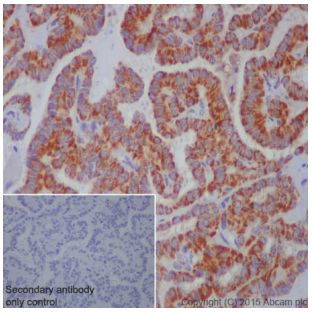
Perform heat mediated antigen retrieval before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free (ab233838)

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

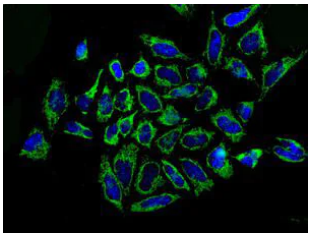
Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling Citrate synthetase with purified ab129095 at 1/20 dilution (10ug/ml) (red). Cells were fixed with 4% paraformaldehyde and permeabilised with 90% methanol. A Goat anti rabbit IgG (Alexa Fluor® 488) (1/2000 dilution) 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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab129095).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free (ab233838)

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

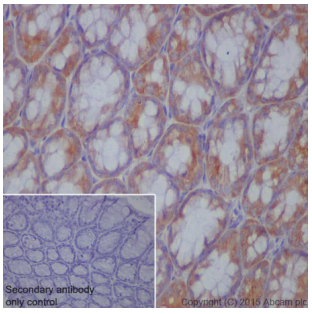
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human thyroid carcinoma tissue labelling Citrate synthetase with purified ab129095 at a dilution of 1/250. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. ab97051, a HRP-conjugated goat anti-rabbit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



Immunocytochemistry/ Immunofluorescence - Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free (ab233838)

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

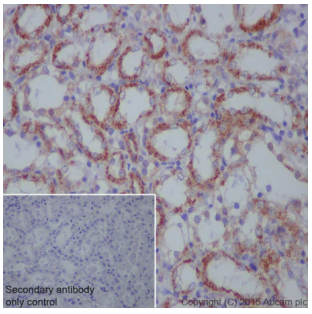
Immunocytochemistry/Immunofluorescence analysis of HeLa cells labelling Citrate synthetase with unpurified ab129095 at a dilution of 1/250.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab129095).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free (ab233838)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab129095).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Citrate synthetase antibody [EPR8067] - BSA and Azide free (ab233838)

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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab129095).

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