abcam

ab197488

Alexa Fluor® 488 Anti-Citrate synthetase antibody [EPR8067]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 488
Excitation/Emission	Ex: 495nm, Em: 519nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% 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	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human
Dilution info	1/1000
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	ab199091 - Rabbit monoclonal IgG (Alexa FluorÂ® 488), is suitable for use as an isotype control with this antibody.

Expected

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

IHC-P

Expected

Species	Human, 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	Blue Ice
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	Avoid freeze / thaw cycle, Store in the dark

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.

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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

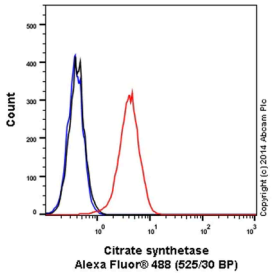
We do not recommend this combination. It is not covered by our product promise.

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.

2 product images

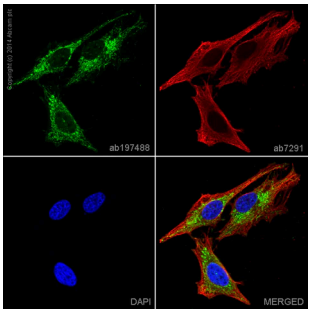


Flow Cytometry (Intracellular) - Alexa Fluor® 488 Anti-Citrate synthetase antibody [EPR8067] (ab197488)

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

Overlay histogram showing HeLa cells stained with ab197488 (red line). The cells were fixed with 4% formaldehyde (10 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 (ab197488, 1/500 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 488 used at the same concentration and conditions as the primary antibody. 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.

This antibody gave a positive signal in HeLa fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 488 Anti-Citrate synthetase antibody [EPR8067] (ab197488)

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

ab197488 staining Citrate synthetase in HeLa cells. The cells were fixed with 4% formaldehyde (10min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab197488 at 1/1000 dilution (shown in green) and ab7291 (Mouse monoclonal [DM1A] to alpha Tubulin) at 1µg/ml. This was followed by an incubation at room temperature for 1h with ab150120, Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) preadsorbed, at 1µg/ml (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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