abcam

ab110320

Anti-Aconitase 2 antibody [6D1BE4]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Clone number	6D1BE4
Specificity	This antibody is not suitable for Western blot. We recommend ab110321 for Western blotting.
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	ab110320 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.Purity: >95% by SDS-PAGE.

Reactivity data

IP

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Expected

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

Target data

See full target information ACO2

Function	Catalyzes the isomerization of citrate to isocitrate via cis-aconitate.

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

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

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

Activity summary	Aconitase 2 also known as ACO2 is an enzyme involved in the citric acid cycle which plays an important role in energy production within the cell. This enzyme converts citrate to isocitrate via a cis-aconitate intermediate an essential step in the cycle that generates ATP. Aconitase 2 has a molecular mass of approximately 83 kDa and is primarily expressed in the mitochondria of eukaryotic cells where it functions optimally due to the organelle's environment.
Biological function summary	Aconitase 2 supports cellular energy metabolism by facilitating the conversion of citrate derivatives. It is an iron-sulfur protein integral to both the cytosolic aconitase and mitochondrial varieties that functions as part of the mitochondrial aconitase complex. The enzyme's iron-sulfur cluster gets oxidized under different conditions causing the enzyme to act as a regulatory factor in response to iron levels further linking it with cellular iron metabolism.
Pathways	Aconitase 2 plays a significant role in the tricarboxylic acid (TCA) cycle commonly known as the Krebs cycle and the iron regulatory pathway. In the TCA cycle aconitase 2 acts after citrate synthase and before isocitrate dehydrogenase establishing its role in the middle of the cycle. It is functionally related to iron

	regulatory proteins particularly IRP1 which can interchangeably bind to iron-responsive elements or possess aconitase activity in its Fe-containing form.
Associated diseases and disorders	Disruptions in aconitase 2 activity are linked to conditions like Friedreich's ataxia and cancer. Friedreich's ataxia involves mitochondrial dysfunction wherein the decreased activity of aconitase 2 leads to impaired energy metabolism contributing to neurodegeneration. In cancers altered aconitase 2 function can impact cellular proliferation by modifying energy metabolism pathways. Aconitase 2 also interacts with the protein frataxin in the context of these conditions underlining its involvement in disease mechanisms related to mitochondrial dysfunction and iron metabolism.

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

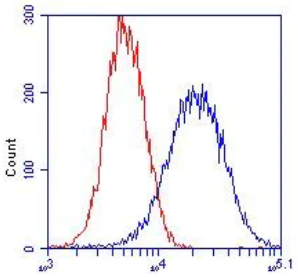
We do not recommend this combination. It is not covered by our product promise.

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.

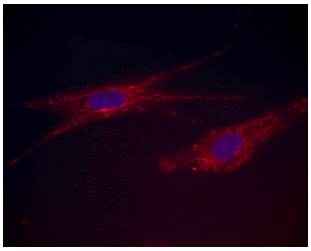
3 product images



Flow Cytometry - Anti-Aconitase 2 antibody [6D1BE4] (ab110320)

Aconitase 2 Flow Cytometry staining using mouse Anti-Aconitase 2 antibody

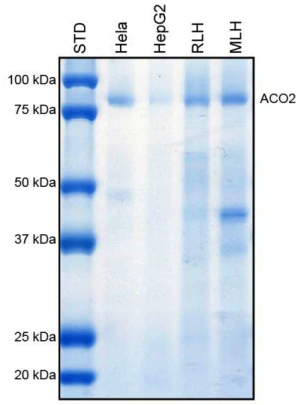
ab110320 at 1µg/ml staining Aconitase 2 in HeLa cells by Flow Cytometry (blue). Isotype control antibody (red).



Immunocytochemistry/ Immunofluorescence - Anti-Aconitase 2 antibody [6D1BE4] (ab110320)

Aconitase 2 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-Aconitase 2 antibody

ab110320 at 1µg/ml staining Aconitase 2 in HDFn cells by Immunocytochemistry (4% paraformaldehyde fixed and 0.1% Triton X-100 permeabilized) followed by Alexa Fluor® 594 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1 hour (red).
Note: the target protein locates to the mitochondria.



Immunoprecipitation - Anti-Aconitase 2 antibody [6D1BE4] (ab110320)

Detection of ab110321 by colloidal Coomassie blue G staining of Immunprecipitate.
Staining of Aconitase in HeLa, HepG2, Rat liver homogenate (RLH), and Mouse liver homogenate (MLH) lysates immunoprecipitated using ab110320.
All lanes:
Immunoprecipitation - Anti-Aconitase 2 antibody [6D1BE4] (ab110320)

Predicted band size: 85 kDa

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