abcam

ab119686

Anti-ATP5C1 antibody [2A1AA11]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: 99% HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Clone number	2A1AA11
Purification technique	Precipitation Ammonium Sulphate
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purity is near homogeneity as judged by SDS-PAGE. The antibody was produced in vitro using hybridomas grown in serum-free medium, and then concentrated by ammonium sulfate precipitation.

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL

Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

Expected

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

WB

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Species	Rat
Dilution info	1 µg/mL
Notes	-

Species	Cow
Dilution info	1 µg/mL
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1 µg/mL
Notes	-

Expected

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

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Expected

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

Target data

See full target information ATP5F1C

Function

Subunit gamma, of the mitochondrial membrane ATP synthase complex (F(1)F(0) ATP synthase or Complex V) that produces ATP from ADP in the presence of a proton gradient across the membrane which is generated by electron transport complexes of the respiratory chain (PubMed:37244256). ATP synthase complex consist of a soluble F(1) head domain - the catalytic core - and a membrane F(1) domain - the membrane proton channel (PubMed:37244256). These two domains are linked by a central stalk rotating inside the F(1) region and a stationary peripheral stalk (PubMed:37244256). During catalysis, ATP synthesis in the catalytic domain of F(1) is coupled via a rotary mechanism of the central stalk subunits to proton translocation (Probable). In vivo, can only synthesize ATP although its ATP hydrolase activity can be activated artificially in vitro (By similarity). With the central stalk subunit delta, is essential for the biogenesis of F(1) catalytic part of the ATP synthase complex namely in the formation of F1 assembly intermediate (PubMed:29499186).

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

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	The ATP5C1 protein also known as ATP synthase subunit gamma plays an important role in cellular energy production. This protein has a mass of approximately 55 kDa. It remains primarily expressed in the mitochondria the powerhouse of cells where it forms a part of the ATP synthase complex. ATP5C1 is essential for ATP synthesis a pivotal process for energy production in cells.
Biological function summary	The ATP5C1 protein is an integral component of the F1 sector of the ATP synthase complex. This complex transduces electrochemical energy into ATP which is the main energy carrier in biological systems. ATP5C1 facilitates rotation of the complex's central stalk enabling energy conversion. It ensures ATP is produced efficiently supporting various cellular processes. ATP5C1 expression levels affect cellular metabolism and energy homeostasis.
Pathways	ATP5C1 holds an important position within oxidative phosphorylation and the mitochondrial electron transport chain. These pathways are vital for ATP production and involve several proteins and enzymes including NADH dehydrogenase cytochrome c oxidase and other ATP synthase subunits. ATP5C1 interacts with these proteins to sustain the flow of electrons coupling it with proton gradients that drive ATP synthesis.
Associated diseases and disorders	ATP5C1 mutations or malfunctions link to conditions such as mitochondrial diseases and metabolic disorders. For instance alterations in ATP5C1 can affect ATP synthesis efficiency leading to mitochondrial dysfunction. It also associates with neurodegenerative diseases where inefficient energy production exacerbates

neuronal degradation. The protein's dysfunction may involve other proteins like ATP5D a fellow subunit within the ATP synthase complex that collaborates in maintaining ATP production.

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

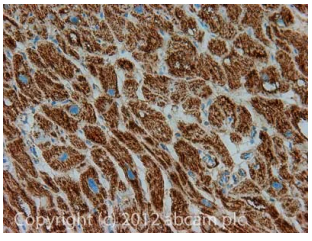
We do not recommend this combination. It is not covered by our product promise.

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.

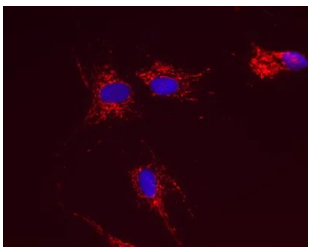
4 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATP5C1 antibody [2A1AA11] (ab119686)

ATP5C1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-ATP5C1 antibody

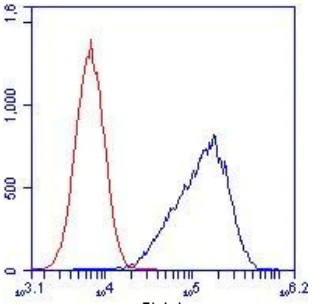
IHC image of ATP5C1 staining in Human normal heart muscle formalin fixed paraffin embedded tissue section, performed on a Leica BondTM system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab119686, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Immunocytochemistry/ Immunofluorescence - Anti-ATP5C1 antibody [2A1AA11] (ab119686)

ATP5C1 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-ATP5C1 antibody

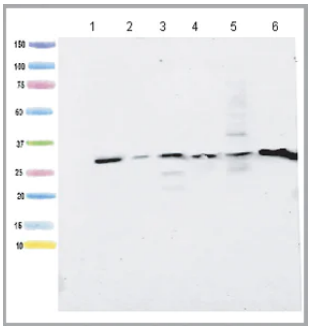
Immunocytochemistry using ab119686 stained HDFn cells (human). The cells were paraformaldehyde fixed (4%, 20 min) and Triton X-100 permeabilized (0.1%, 15min) with antigen retrieval. The cells were then incubated with the antibody (ab119686, 1µg/ml) for 2h at room temperature or over night at 4°C. The secondary antibody was (red) 594 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. 10% Goat serum was used as the blocking agent for all blocking steps. The target protein locates to the mitochondria.



Flow Cytometry - Anti-ATP5C1 antibody [2A1AA11] (ab119686)

ATP5C1 Flow Cytometry staining using mouse Anti-ATP5C1 antibody

Flow cytometry. Hela cells were stained with 1µg/mL anti-ATP5C1 antibody (ab119686) (blue) or an equal amount of an isotype control antibody (red) and analyzed by flow cytometry.



Western blot - Anti-ATP5C1 antibody [2A1AA11] (ab119686)

All lanes:
Western blot - Anti-ATP5C1 antibody [2A1AA11] (ab119686) at 1 µg/mL

Lane 1:
human heart homogenate lysate at 15 µg

Lane 2:
human HepG2 cell lysate at 15 µg

Lane 3:
human liver mitochondria lysate at 7.5 µg

Lane 4:
rat liver mitochondria lysate at 7.5 µg

Lane 5:
mouse liver mitochondria lysate at 7.5 µg

Lane 6:
bovine heart mitochondria lysate at 7.5 µg

Secondary

All lanes:
Goat anti-mouse HRP at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 33 kDa

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