abcam

ab110275

Anti-ATP5H antibody [7F9BG1]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	pH: 7.5 Preservative: 0.02% Sodium azide Constituents: HEPES buffered saline
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	7F9BG1
Purification technique	Affinity purification Immunogen
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Near homogeneity as judged by SDS-PAGE. ab110275 was produced in vitro using hybridomas grown in serum-free medium, and then purified by biochemical fractionation.

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
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Species	Cow
Dilution info	-
Notes	-

Species	African green monkey
Dilution info	-
Notes	ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Mouse
Dilution info	1 µg/mL
Notes	-

Species	Rat
Dilution info	1 µg/mL
Notes	-

Species	Cow
Dilution info	1 µg/mL
Notes	-

Species	African green monkey
Dilution info	1 µg/mL
Notes	-

Species	Human
Dilution info	1 µg/mL
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1-5 µg/mL
Notes	(heat-induced antigen-retrieval improvessignal)

Expected

Species	Mouse
Dilution info	-
Notes	-

Species	Rat
Dilution info	-
Notes	-

Species	Cow
Dilution info	-
Notes	-

Species	African green monkey
Dilution info	-
Notes	(heat-induced antigen-retrieval improvessignal)

Target data

See full target information ATP5PD

Function	Subunit d, 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). Part of the complex F(0) domain (PubMed:37244256). Part of the complex F(0) domain and the peripheric stalk, which acts as a stator to hold the catalytic alpha(3)beta(3) subcomplex and subunit a/ATP6 static relative to the rotary elements (By similarity).

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

For mouse and rat samples, this antibody will only recognize ATP5H in purified mitochondrial samples. Mouse and rat cell lysates and tissue homogenates are not recommneded with this antibody.

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	ATP5H also known as ATP synthase subunit d is a component of the ATP synthase complex an important enzyme found in the mitochondria. It weighs approximately 18.4 kDa. This protein is part of the F1F0 ATP synthase complex specifically the F0 domain. ATP5H is highly expressed in tissues with high energy demand such as skeletal muscle and cardiac muscle indicating its important role in the cellular energy production.

Biological function summary	ATP5H facilitates the production of ATP the energy currency of the cell. It is essential in the synthesis of ATP from ADP and inorganic phosphate driven by a proton gradient across the mitochondrial membrane. ATP5H is integral to the structure of the F1F0 ATP synthase complex ensuring efficient proton translocation and ATP synthesis. This subunit is critical for the overall function and stability of the ATP synthase complex.
Pathways	ATP5H plays a role in oxidative phosphorylation and energy metabolism pathways. This protein interacts closely with other ATP synthase subunits including ATP5B and ATP5O orchestrating the conversion of energy derived from nutrients to ATP. The oxidative phosphorylation pathway is central to energy production in eukaryotic cells and ATP5H forms an essential link in this process.
Associated diseases and disorders	ATP5H is implicated in mitochondrial dysfunctions and related conditions such as mitochondrial myopathies. Alterations or deficiencies in ATP5H can disrupt ATP production potentially leading to neuromuscular disorders. Additionally connections to ATP5A1 another subunit of ATP synthase are noted. Dysregulation in these interactions can provide insight into the molecular mechanisms of these diseases providing potential therapeutic targets.

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

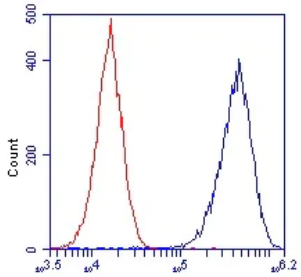
We do not recommend this combination. It is not covered by our product promise.

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.

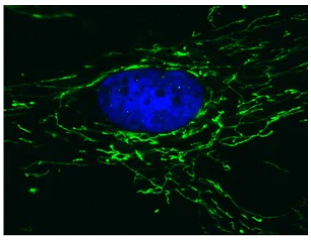
4 product images



Flow Cytometry - Anti-ATP5H antibody [7F9BG1] (ab110275)

ATP5H Flow Cytometry staining using mouse Anti-ATP5H antibody

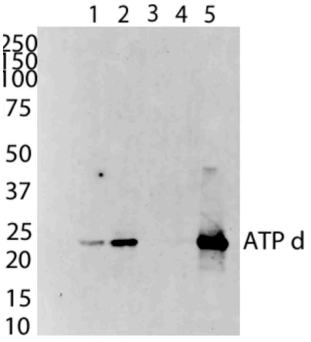
HeLa cells were stained with 1 µg/mL ab110275 (blue) or an equal amount of an isotype control antibody (red) and analyzed by flow cytometry.



Immunocytochemistry/ Immunofluorescence - Anti-ATP5H antibody [7F9BG1] (ab110275)

ATP5H Immunocytochemistry/ Immunofluorescence staining using mouse Anti-ATP5H antibody

Mitochondrial localization of ATP5H. Cultured Human embryonic lung-derived fibroblasts (strain MRC5) were fixed, permeabilized and then labeled with ab110275 (5 µg/ml) followed by an AlexaFluor® 488-conjugated-goat-anti-mouse IgG(H+L) secondary antibody (2 µg/ml).



Western blot - Anti-ATP5H antibody [7F9BG1] (ab110275)

All lanes:
Western blot - Anti-ATP5H antibody [7F9BG1] (ab110275) at 1 µg/mL

Lane 1:
HDFn (human) cell lysates at 20 µg

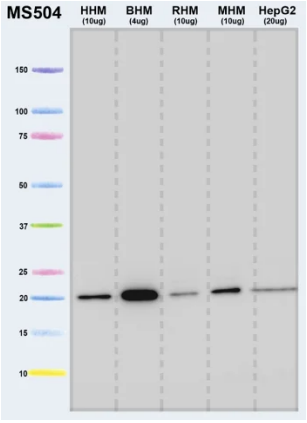
Lane 2:
COS-7 (African green monkey kidney fibroblast-like cell line) cell lysates at 20 µg

Lane 3:
H4IIE (rat) cell lysates at 20 µg

Lane 4:
MEF (mouse) cell lysates at 20 µg

Lane 5:
bovine heart mitochondria lysates at 5 µg

Predicted band size: 18 kDa



Western blot - Anti-ATP5H antibody [7F9BG1] (ab110275)

All lanes:
Western blot - Anti-ATP5H antibody [7F9BG1] (ab110275) at 1/1 dilution

Lane 1:
Human heart mitochondria at 10 µg

Lane 2:
Bovine heart mitochondria at 4 µg

Lane 3:
Rat heart mitochondria at 10 µg

Lane 4:
Mouse heart mitochondria at 10 µg

Lane 5:
HepG2 mitochondria at 20 µg

Predicted band size: 18 kDa

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