abcam

**ab173006**

# Anti-ATP5H antibody [10G5AB2]

## Key facts

| | |
|---|---|
| **Isotype** | IgG1 |
| **Host species** | Mouse |
| **Storage buffer** | pH: 7.5 Preservative: 0.02% Sodium azide Constituents: 99% HEPES buffered saline |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | 10G5AB2 |
| **Concentration** | 1 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |
| **Purification notes** | ab173006 is purified to near homogeneity as judged by SDS-PAGE. The antibody 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** | ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody. |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat, African green monkey, Cow |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## WB

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

| | |
|---|---|
| **Species** | African green monkey |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

| | |
|---|---|
| **Species** | Cow |
| **Dilution info** | 0.5 µg/mL |
| **Notes** | - |

## ICC/IF

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1 µg/mL |

| | |
|---|---|
| **Notes** | - |

### Expected

| | |
|---|---|
| **Species** | Mouse, Rat, African green monkey, Cow |
| **Dilution info** | Use at an assay dependent concentration. |
| **Notes** | - |

## 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

**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**

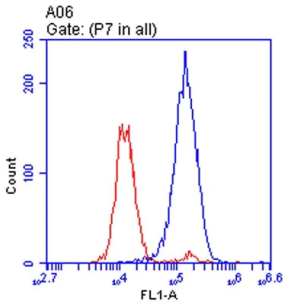
We do not recommend this combination. It is not covered by our product promise.

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 [10G5AB2] (ab173006)

ATP5H Flow Cytometry staining using mouse Anti-ATP5H antibody

Flow Cytometry with HeLa cells stained with ab173006 (blue) and isotype-specific negative control (red).

Fixation: Paraformaldehyde fixed (4%, 15 min).

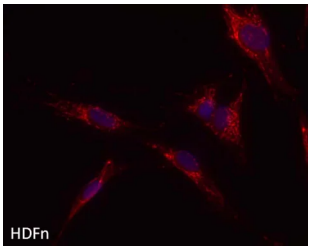
Permeabilization: Methanol permeabilized (90%, @ -20°C for >30 min).

Blocking: 1% BSA /PBS (20 min).

Primary: ab173006 0.5 µg/ml in 1% BSA/PBS, 1hr at room temperature.

Secondary: Alexa Fluor® 488 goat anti-mouse IgG1 used at a 1/1000 dilution in 1% BSA/PBS for 30 min at RT.

Washing: 2x 1% BSA/PBS.




### Immunocytochemistry/ Immunofluorescence - Anti-ATP5H antibody [10G5AB2] (ab173006)

ATP5H Immunocytochemistry/ Immunofluorescence staining using mouse Anti-ATP5H antibody

Immunocytochemistry with HDFn cells stained with ab173006 (red) and DAPI (blue).

Fixation: Paraformaldehyde fixed (4%, 20 min).

Used heated antigen retrieval for optimal signal.

Permeabilization: Triton X-100 permeabilized (0.1%, 10min).

Blocking: 10% Goat Serum/PBS (1 hour).

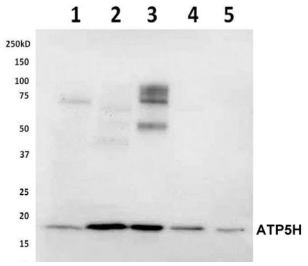
Primary: ab173006 5 µg/ml (10% Goat Serum/PBS, 2hr at room temperature or over night at 4°C).

Secondary: Alexa Fluor® 594 goat anti-mouse H+L used at a 1/1000 dilution in 1% Goat Serum/PBS for 1hr at RT.

Washing: 3X 1% Goat Serum/PBS, 10 mins/wash.

DAPI: 2 µM in 1% Goat Serum/PBS, 10 mins.

The target protein locates to the mitochondria (red).




## Western blot - Anti-ATP5H antibody [10G5AB2] (ab173006)

All lanes:
Western blot - Anti-ATP5H antibody [10G5AB2] (ab173006) at 0.2 µg/mL

Lane 1:
Human Heart Homogenate at 20 µg

Lane 2:
Rat Heart Homogenate at 20 µg

Lane 3:
Mouse Heart Homogenate at 20 µg

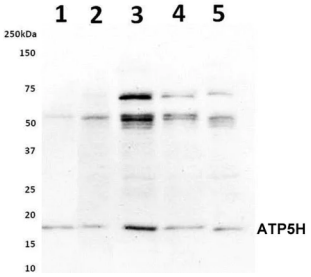
Lane 4:
Bovine Heart Homogenate at 15 µg

Lane 5:
Hela cell lysate at 20 µg

Secondary

All lanes:
Goat polyclonal to Mouse IgG - HRP at 1/5000 dilution

Predicted band size: 18 kDa




## Western blot - Anti-ATP5H antibody [10G5AB2] (ab173006)

All lanes:
Western blot - Anti-ATP5H antibody [10G5AB2] (ab173006) at 0.5 µg/mL

Lane 1:
HepG2 cell lysate at 20 µg

Lane 2:
H4IIE cell lysate at 20 µg

Lane 3:
MEF cell lysate at 20 µg

Lane 4:
NIH-3T3 cell lysate at 20 µg

Lane 5:
COS7 cell lysate at 10 µg

Secondary

All lanes:
Goat polyclonal to Mouse IgG - HRP at 1/5000 dilution

Predicted band size: 18 kDa

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