abcam

Product datasheet

Anti-ATP5A antibody ab151229

★★★★★ 1 Abreviews 6 References 3 Images

Overview

Product name	Anti-ATP5A antibody
Description	Rabbit polyclonal to ATP5A
Host species	Rabbit
Specificity	From Mar 2024, QC testing of replenishment batches of this polyclonal changed. All tested and expected application and reactive species combinations are still covered by our Abcam product promise. However, we no longer test all applications. For more information on a specific batch, please contact our Scientific Support who will be happy to help. You may also be interested in our alternative recombinant antibody, **ab176569**.
Tested applications	**Suitable for:** WB, IHC-P, ICC/IF
Species reactivity	**Reacts with:** Mouse, Rat, Human **Predicted to work with:** Chicken, Cow, Chimpanzee, Orangutan
Immunogen	Synthetic peptide corresponding to Human ATP5A aa 200-300 conjugated to keyhole limpet haemocyanin. (Peptide available as **ab151534**)
Positive control	WB: Human fetal brain and human fetal heart tissue lysates and Raw264.7, HEK293, MCF7, HepG2, HL60 and PC12 whole cell lysates. IHC-P: Human heart muscle tissue sections. ICC/IF: HeLa cells.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.40

Preservative: 0.02% Sodium azide
Constituent: PBS

Batches of this product that have a concentration < 1mg/ml may have BSA added as a stabilising agent. If you would like information about the formulation of a specific lot, please contact our scientific support team who will be happy to help.

Purity Immunogen affinity purified

Clonality Polyclonal

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab151229 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★★★★★ (1)	Use a concentration of 1 µg/ml. Detects a band of approximately 59 kDa (predicted molecular weight: 59 kDa).
IHC-P		Use a concentration of 1 µg/ml. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.
ICC/IF		Use a concentration of 1 µg/ml.

Target

Function Mitochondrial membrane ATP synthase (F(1)F(0) ATP synthase or Complex V) 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. F-type ATPases consist of two structural domains, F(1) - containing the extramembraneous catalytic core, and F(0) - containing the membrane proton channel, linked together by a central stalk and a peripheral stalk. 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. Subunits alpha and beta form the catalytic core in F(1). Rotation of the central stalk against the surrounding alpha(3)beta(3) subunits leads to hydrolysis of ATP in three separate catalytic sites on the beta subunits. Subunit alpha does not bear the catalytic high-affinity ATP-binding sites.

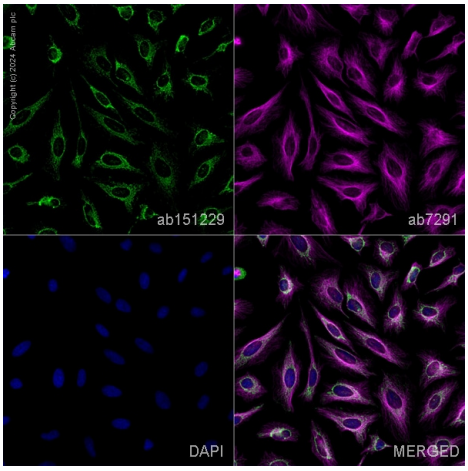
Tissue specificity Fetal lung, heart, liver, gut and kidney. Expressed at higher levels in the fetal brain, retina and spinal cord.

Sequence similarities Belongs to the ATPase alpha/beta chains family.

Post-translational modifications The N-terminus is blocked.

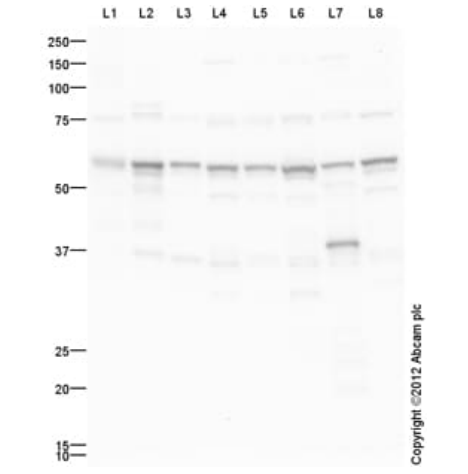
Cellular localization Mitochondrion inner membrane. Peripheral membrane protein.

Images



Immunocytochemistry/ Immunofluorescence - Anti-ATP5A antibody (ab151229)

ab151229 staining ATP5A in HeLa cells. The cells were fixed with 100% methanol (5 min), permeabilized with 0.1% PBS-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 ab151229 at 1µg/ml and **ab7291**, Mouse monoclonal [DM1A] to alpha Tubulin - Loading Control. Cells were then incubated with **ab150081**, Goat polyclonal Secondary Antibody to Rabbit IgG - H&L (Alexa Fluor® 488), pre-adsorbed at 1/1000 dilution (shown in green) and **ab150120**, Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor® 594), pre-adsorbed at 1/1000 dilution (shown in pseudocolour magenta). Nuclear DNA was labelled with DAPI (shown in blue). Also suitable in cells fixed with 100% methanol (5 min).Image was acquired with a high-content analyser (Operetta CLS, Perkin Elmer) and a maximum intensity projection of confocal sections is shown.



Western blot - Anti-ATP5A antibody (ab151229)

All lanes : Anti-ATP5A antibody (ab151229) at 1 µg/ml

Lane 1 : Brain (Human) Tissue Lysate - fetal normal tissue (**ab29467**)
Lane 2 : Heart (Human) Whole Cell Lysate - fetal normal tissue

Lane 3 : RAW 264.7 (Mouse leukaemic monocyte macrophage cell line) Whole Cell Lysate

Lane 4 : HEK293 (Human embryonic kidney cell line) Whole Cell Lysate
Lane 5 : MCF7 (Human breast adenocarcinoma cell line) Whole Cell Lysate

Lane 6 : HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate
Lane 7 : HL60 (Human promyelocytic leukemia cell line) Whole Cell Lysate

Lane 8 : PC12 (Rat adrenal pheochromocytoma cell line) Whole Cell Lysate

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/10000 dilution

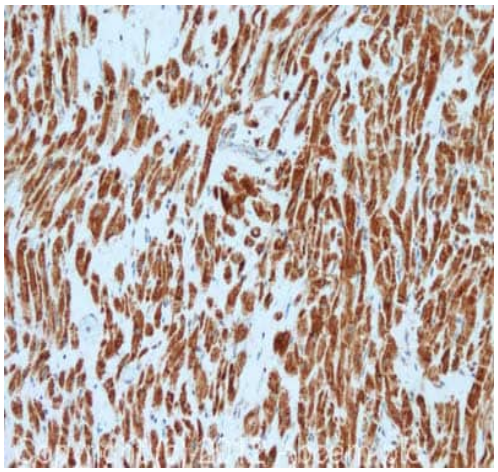
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 59 kDa
Observed band size: 59 kDa
Additional bands at: 37 kDa, 50 kDa, 75 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 10 seconds

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 5% Bovine Serum Albumin before being incubated with ab151229 overnight at 4°C. Antibody binding was detected using an anti-rabbit antibody conjugated to HRP, and visualised using ECL development solution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATP5A antibody (ab151229)

IHC image of ATP5A staining in human heart muscle formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ 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 ab151229, 1µg/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.

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