

Product datasheet

Anti-ATPB antibody [3D5] - Mitochondrial Marker ab14730

★★★★★ 29 Abreviews 134 References 7 Images

Overview

Product name	Anti-ATPB antibody [3D5] - Mitochondrial Marker
Description	Mouse monoclonal [3D5] to ATPB - Mitochondrial Marker
Host species	Mouse
Specificity	Human and Bovine complex V beta subunit (ATPB).
Tested applications	Suitable for: WB, IHC-Fr, ICC/IF, IP, Flow Cyt, IHC-P
Species reactivity	Reacts with: Mouse, Rat, Cow, Human, Pig, Caenorhabditis elegans, Monkey
Immunogen	Whole heart mitochondria (Human).
General notes	This antibody clone is manufactured by Abcam. If you require this antibody in a particular buffer formulation or a particular conjugate for your experiments, please contact orders@abcam.com or you can find further information here .

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	Preservative: 0.02% Sodium azide Constituent: HEPES buffered saline
Purity	IgG fraction
Purification notes	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.
Clonality	Monoclonal
Clone number	3D5
Isotype	IgG1
Light chain type	kappa

Applications

Our [Abpromise guarantee](#) covers the use of **ab14730** 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	★★★★★	Use a concentration of 0.5 µg/ml. Detects a band of approximately 52 kDa (predicted molecular weight: 52 kDa).
IHC-Fr	★★★★☆	1/100.
ICC/IF	★★★★★	Use a concentration of 1 - 2 µg/ml.
IP	★★★★☆	Use at an assay dependent concentration. PubMed: 21490313
Flow Cyt		Use a concentration of 1 µg/ml. ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
IHC-P	★★★★★	Use at an assay dependent concentration.

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.

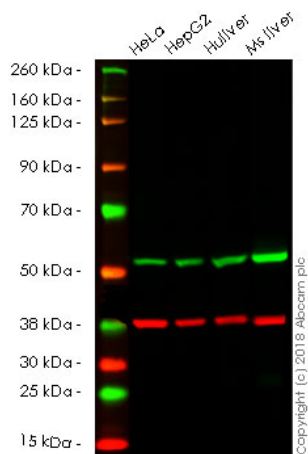
Sequence similarities

Belongs to the ATPase alpha/beta chains family.

Cellular localization

Mitochondrion. Mitochondrion inner membrane. Peripheral membrane protein.

Images



Western blot - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

All lanes :

- Lane 1 :** HeLa
- Lane 2 :** HepG2
- Lane 3 :** Hu liver
- Lane 4 :** Ms liver

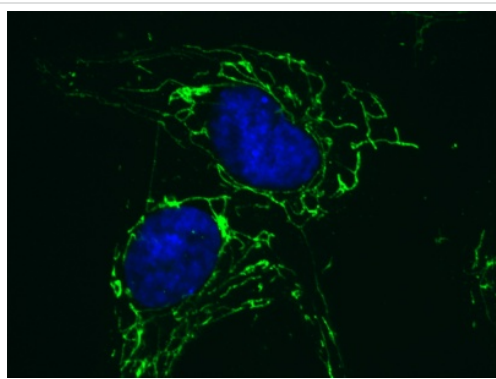
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 52 kDa

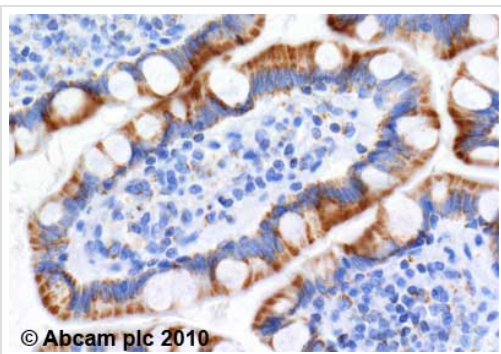
Merged signal (red and green). Green - ab14730 observed at 52 kDa. Red - loading control, [ab181602](#) observed at 37 kDa.

Samples were subjected to SDS-PAGE. ab14730 and [ab181602](#) (Rabbit anti-GAPDH loading control) were incubated overnight at 4°C at 1ug/mL and 1/10000 dilution respectively. Blots were developed with Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed ([ab216772](#)) and Goat anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed ([ab216777](#)) secondary antibodies at 1/20000 dilution for 1 hour at room temperature before imaging.



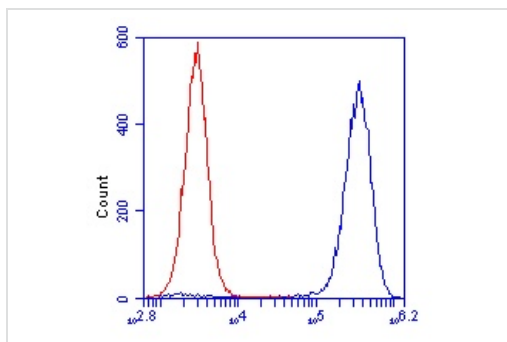
Immunocytochemistry/ Immunofluorescence - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

ab14730 staining ATPB in cultured human fibroblasts. Cells were fixed, permeabilized and then labelled with ab14730 followed by an AlexaFluor® 488-conjugated Goat anti-Mouse IgG1-specific secondary antibody (2 µg/ml)



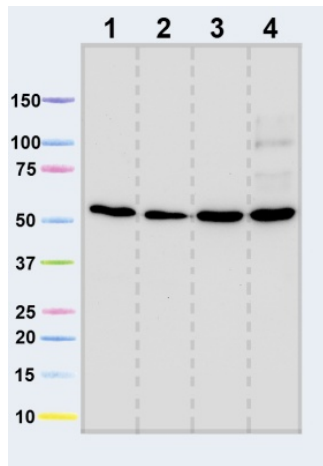
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

ab14730 (2 μ g/ml) staining ATPB in human duodenum using an automated system (DAKO Autostainer Plus). Using this protocol there is cytoplasmic and mitochondrial staining of epithelium. Sections were rehydrated and antigen retrieved with the Dako 3 in 1 AR buffer EDTA pH 9.0 in a DAKO PT link. Slides were peroxidase blocked in 3% H₂O₂ in methanol for 10 mins. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 min and detected with Dako Envision Flex amplification kit for 30 minutes. Colorimetric detection was completed with Diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that, for manual staining, optimization of primary antibody concentration and incubation time is recommended. Signal amplification may be required.



Flow Cytometry - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

ab14730 (blue) at 1 μ g/ml staining ATPB in HL-60 cells and analyzed by Flow cytometry. Red histogram represents equal quantity of isotype control.



Western blot - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

All lanes : Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

Lane 1 : isolated mitochondria from human heart at 5 µg

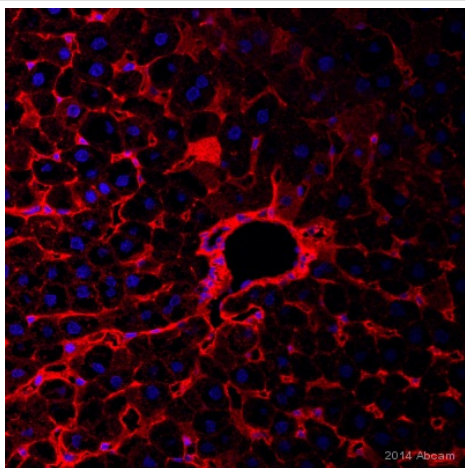
Lane 2 : isolated mitochondria from bovine heart at 1 µg

Lane 3 : isolated mitochondria from rat heart at 10 µg

Lane 4 : isolated mitochondria from mouse heart at 10 µg

Predicted band size: 52 kDa

Observed band size: 52 kDa



Immunohistochemistry (Frozen sections) - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

This image is courtesy of an anonymous Abreview

ab14730 staining ATPB in rat liver tissue sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with paraformaldehyde and blocked with 10% serum for 1 hour at 25°C. Samples were incubated with primary antibody (1/100 in 10% goat serum) for 18 hours at 4°C. An Alexa Fluor® 555-conjugated goat anti-mouse polyclonal (1/500) was used as the secondary antibody.



Western blot - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

All lanes : Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730) at 0.8 µg/ml

Lane 1 : HeLa (Human epithelial carcinoma cell line) Whole Cell Lysate

Lane 2 : HepG2 (Human hepatocellular liver carcinoma cell line) Whole Cell Lysate

Lane 3 : Human liver tissue lysate - total protein (ab29889)

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : Goat polyclonal to Mouse IgG - H&L - Pre-Adsorbed (HRP) at 1/3000 dilution

Predicted band size: 52 kDa

Observed band size: 52 kDa

Please note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors