abcam

Product datasheet

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

41 Abreviews 229 References 6 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, ICC/IF, Flow Cyt, IHC-P
Species reactivity	**Reacts with:** Mouse, Rat, Cow, Human, Caenorhabditis elegans **Predicted to work with:** Goat, Cat, Dog, Pig, Common marmoset
Immunogen	Tissue, cells or virus corresponding to Human ATPB.
General notes	This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact **orders@abcam.com**. 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: 7.4 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

The Abpromise guarantee 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	★★★★★ **(14)**	Use a concentration of 0.5 µg/ml. Detects a band of approximately 52 kDa (predicted molecular weight: 52 kDa).
ICC/IF	★★★★★ **(8)**	Use a concentration of 1 - 2 µg/ml.
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	★★★★☆ **(10)**	Use at an assay dependent concentration.

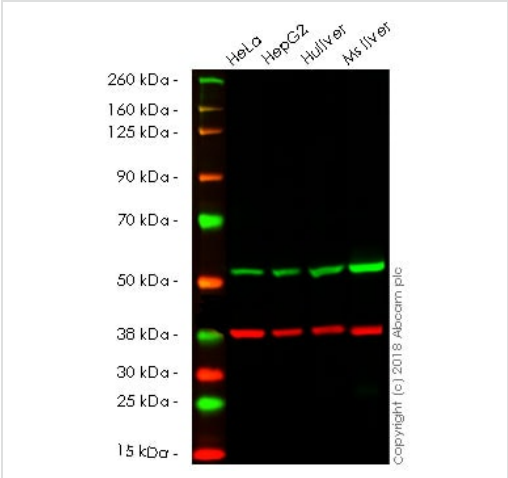
Target

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

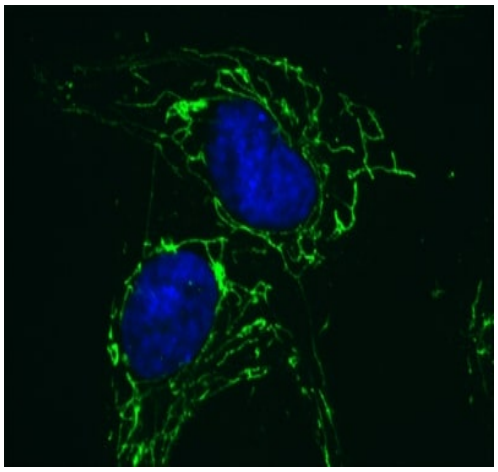
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 52 kDa

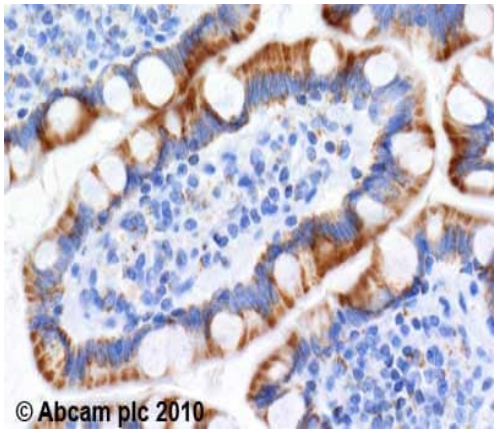
Merged signal (red and green). Green - ab14730 observed at 52 kDa. Red - loading control, **ab181602** observed at 37 kDa.

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.



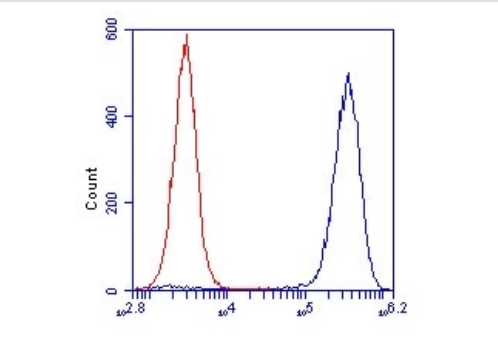
Immunocytochemistry/ Immunofluorescence - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

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)



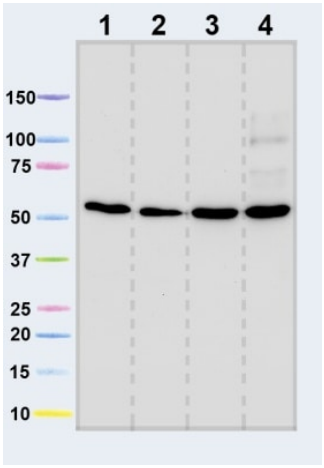
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

ab14730 (2µg/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 1µg/ml staining ATPB in HL-60 cells and analyzed by Flow cytometry. Red histogram represents equal quantity of isotype control.

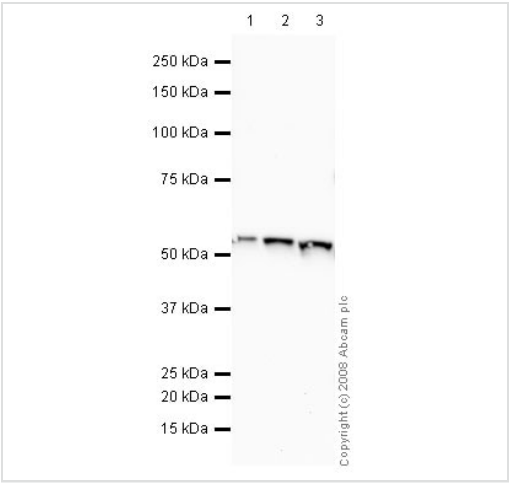


Western blot - Anti-ATPB antibody [3D5] - Mitochondrial Marker (ab14730)

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



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

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