abcam

Product datasheet

Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker ab5432

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Overview

Product name	Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker
Description	Mouse monoclonal [4.3E8.D10] to ATPB - Mitochondrial Marker
Host species	Mouse
Specificity	Detects the beta subunit of ATP synthase (ATPB) from mouse rat and human samples. This antibody is useful as a mitochondrial marker.
Tested applications	**Suitable for:** WB, ICC/IF, IP
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Tissue, cells or virus corresponding to ATPB. Intact rat mitochondria.
Positive control	ICC/IF: 3T3, HEK293T, A431, rat neuronal glial cells, HeLa; IP: rat neuronal/glial cells, THP-1 cells; WB: human testis tissue lysate
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	Preservative: 0.05% Sodium azide Constituents: 99% PBS, 0.1% BSA
Purity	Affinity purified
Clonality	Monoclonal
Clone number	4.3E8.D10
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab5432 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 - 2 µg/ml. Detects a band of approximately 57 kDa (predicted molecular weight: 57 kDa).
ICC/IF		1/100 - 1/1000.
IP		Use a concentration of 2 - 5 µg/ml. By immunoprecipatation, this antibody detects an 50 kDa protein representing ATP synthase (ATPB) from solubilized rat brain mitochondria.

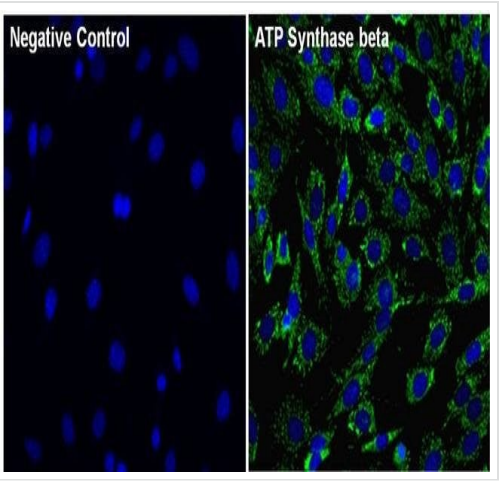
Target

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.

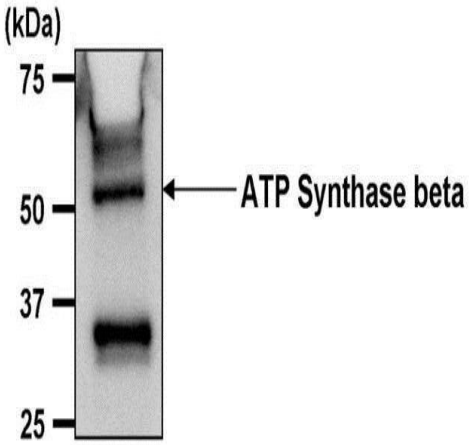
Cellular localization Mitochondrion. Mitochondrion inner membrane. Peripheral membrane protein.

Images



Immunocytochemistry/ Immunofluorescence - Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432)

Immunocytochemistry analysis of ATPB using ab5432 at 5µg/mL concentration shows staining in 4% paraformaldehyde-fixed 3T3 Cells. Secondary was Goat anti-Mouse IgG (H+L) Superclonal Secondary Antibody, Alexa Fluor® 488 conjugate at 1/1000 dilution. ATPB (green), and nuclei with Hoechst 33342 dye (blue) is shown. Negative control has no primary antibody



Immunoprecipitation - Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432)

ATPB was immunoprecipitated from THP-1 whole cell lysate with 5 µL ab5432.

Lane 1: ab5432 IP in THP-1 whole cell lysate, with HRP-conjugated goat anti-mouse IgG secondary

Detection: Chemiluminescence

Western blot - Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432)

Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432) at 1 µg/ml + Human testis tissue lysate - total protein (**ab30257**) at 20 µg

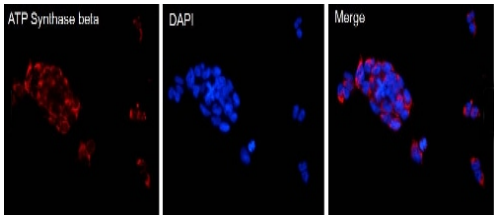
Secondary
Goat Anti-Mouse IgG H&L (HRP) preadsorbed (**ab97040**) at 1/5000 dilution

Developed using the ECL technique.

Performed under reducing conditions.

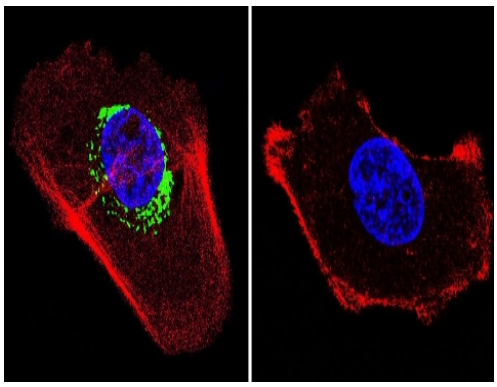
Predicted band size: 57 kDa
Observed band size: 57 kDa

Exposure time: 16 minutes



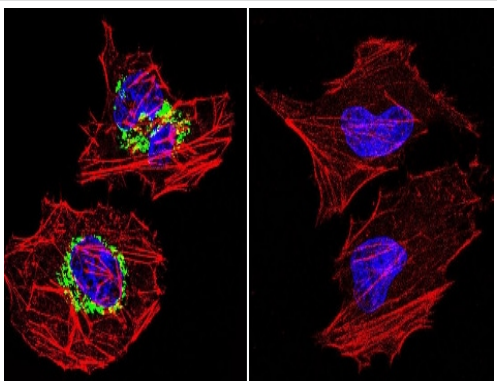
Immunocytochemistry/ Immunofluorescence - Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432)

Immunocytochemistry/Immunofluorescent analysis of ATPB (red) in HEK293T cells. Cells fixed with 4% formaldehyde were permeabilized and blocked with 1X PBS containing 5% BSA and 0.3% Triton X-100 for 1 hour at room temperature. Cells were probed with ab5432 at 1:100 overnight at 4ºC in 1X PBS containing 1% BSA and 0.3% Triton X-100, washed with 1X PBS, and incubated with a fluorophore-conjugated goat anti-mouse IgG secondary antibody at a dilution of 1:200 for 1 hour at room temperature. Nuclei (blue) were stained with DAPI. Images were taken on a Leica DM1000 microscope at 40X magnification.



Immunocytochemistry/ Immunofluorescence - Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432)

Immunofluorescent analysis of ATPB in A431 cells. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with a ATPB monoclonal antibody (ab5432) at a dilution of 1:200 overnight at 4 C and incubated with a DyLight-488 conjugated secondary antibody. ATPB staining (green) F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Images were taken at 60X magnification.

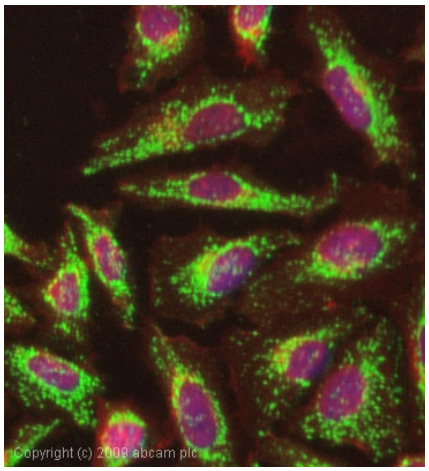


Immunocytochemistry/ Immunofluorescence - Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432)

Immunofluorescent analysis of ATPB in HeLa cells. Cells were grown on chamber slides and fixed with formaldehyde prior to staining. Cells were probed without (control) or with a ATPB monoclonal antibody (ab5432) at a dilution of 1:200 overnight at 4 C and incubated with a DyLight-488 conjugated secondary antibody. ATPB staining (green) F-Actin staining with Phalloidin (red) and nuclei with DAPI (blue) is shown. Images were taken at 60X magnification.

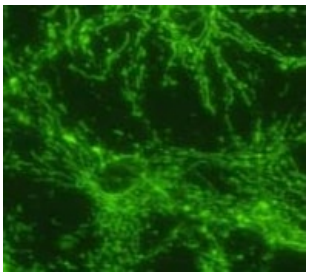
Immunoprecipitation - Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432)

Immunoprecipatation of rat neuronal/glial cell extract using ab5432.



Immunocytochemistry/ Immunofluorescence - Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432)

ICC/IF image of ab5432 stained HeLa cells. The cells were 4% PFA fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab5432, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Immunocytochemistry/ Immunofluorescence - Anti-ATPB antibody [4.3E8.D10] - Mitochondrial Marker (ab5432)

Immunocytochemistry/Immunofluorescence analysis of rat neuronal/glial cell culture using ab5432.

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