abcam

Product datasheet

Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] ab2872

3 Abreviews 23 References 8 Images

Overview

Product name	Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3]
Description	Mouse monoclonal [M8-P1-A3] to alpha 1 Sodium Potassium ATPase
Host species	Mouse
Tested applications	**Suitable for:** WB, IHC-P, ICC/IF, Flow Cyt
Species reactivity	**Reacts with:** Human
Immunogen	Full length protein. This information is proprietary to Abcam and/or its suppliers.
Epitope	This antibody recognizes an epitope between amino acid residues 496-506 of lamb kidney sodium/potassium ATPase.
Positive control	WB: canine kidney extract
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: 0.1% BSA, 99% PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	M8-P1-A3
Isotype	IgG1

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab2872 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)**	1/200 - 1/2000. Detects a band of approximately 100 kDa (predicted molecular weight: 110 kDa).
IHC-P	★★★★★ **(2)**	1/100 - 1/2000. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF		1/50 - 1/200.
Flow Cyt		1/20 - 1/100. **ab170190** - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

Target

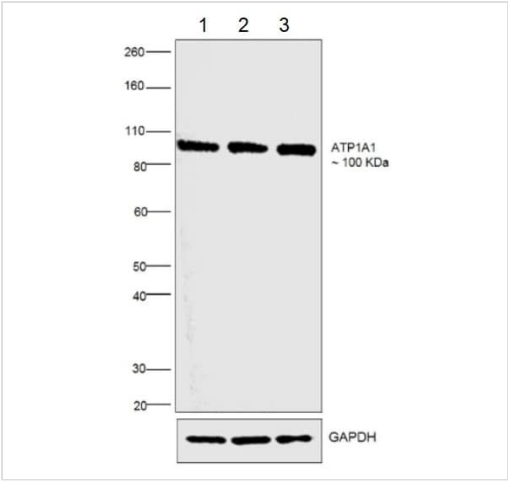
Function This is the catalytic component of the active enzyme, which catalyzes the hydrolysis of ATP coupled with the exchange of sodium and potassium ions across the plasma membrane. This action creates the electrochemical gradient of sodium and potassium ions, providing the energy for active transport of various nutrients.

Sequence similarities Belongs to the cation transport ATPase (P-type) (TC 3.A.3) family. Type IIC subfamily.

Post-translational modifications Phosphorylation on Tyr-10 modulates pumping activity.

Cellular localization Cell membrane. Melanosome. Identified by mass spectrometry in melanosome fractions from stage I to stage IV.

Images



Western blot - Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872)

All lanes : Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872) at 1/1000 dilution

Lane 1 : Hep G2 (Human liver hepatocellular carcinoma cell line) whole cell lysate
Lane 2 : MCF7 (Human breast adenocarcinoma cell line) whole cell lysate
Lane 3 : MDA-MB-231 (Human breast adenocarcinoma cell line) whole cell lysate

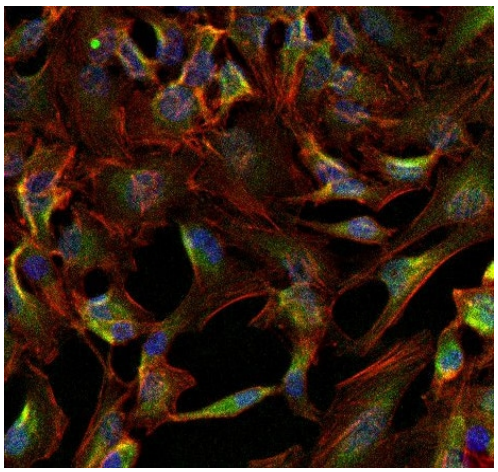
Lysates/proteins at 30 µg per lane.

Secondary
All lanes : Goat anti-Mouse IgG (H+L) Superclonal™ Recombinant Secondary Antibody, HRP at 1/4000 dilution

Predicted band size: 110 kDa

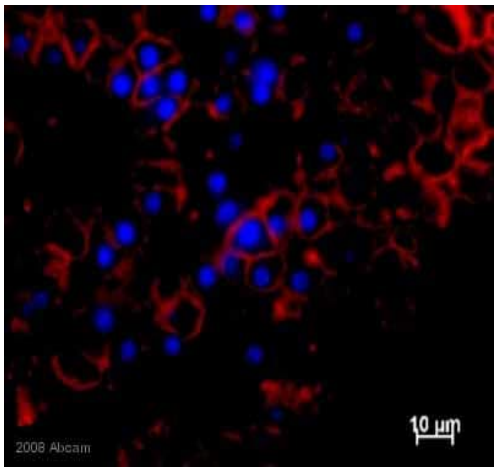
Samples were electrophoresed using Novex® NuPAGE® 4-12 % Bis-Tris gel. Resolved proteins were then transferred onto a nitrocellulose membrane by iBlot® 2 Dry Blotting System.

Chemiluminescent detection was performed using Novex® ECL Chemiluminescent Substrate Reagent Kit.



Immunocytochemistry/ Immunofluorescence - Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872)

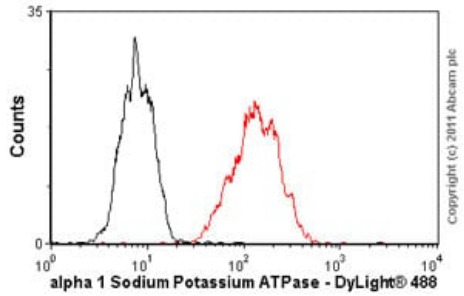
Immunocytochemistry/Immunofluorescence analysis of alpha 1 Sodium Potassium ATPase (green) in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 15 minutes at room temperature and blocked with 0.3% BSA for 15 minutes at room temperature. Cells were incubated with ab2872 (1:100) for at least 1 hour at room temperature, washed with PBS, and incubated with a DyLight 488-conjugated goat anti-mouse IgG secondary antibody (1:500) for 30 minutes at room temperature. F-actin (red) was stained with DyLight 594 Phalloidin and nuclei (blue) were stained with Hoechst 33342 dye. Images were taken at 20X magnification.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872)

This image is courtesy of an anonymous Abreview

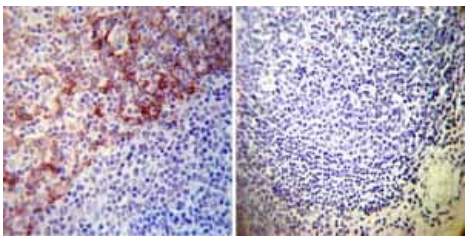
ab2872 staining pig hepatocyte tissue sections by IHC-P. The section was fixed with Bouins and subjected to heat mediated antigen retrieval (at pH 9) prior to incubating with the primary antibody, diluted 1/2000, for 1 hour at 20°C. A Cy3® conjugated goat anti-mouse IgG antibody was used as the secondary.



Flow Cytometry - Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872)

Overlay histogram showing HEK293 cells stained with ab2872 (red line). The cells were fixed with 100% methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab2872, 1/100 dilution) for 30 min at 22ºC. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (**ab96879**) at 1/500 dilution for 30 min at 22ºC. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (**ab91353**, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HEK293 cells fixed with 4% paraformaldehyde used under the same conditions.

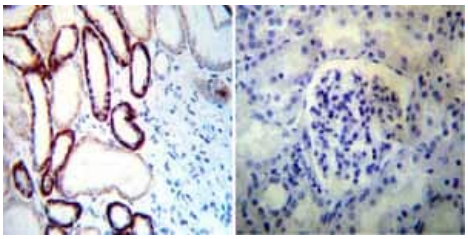
Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872)

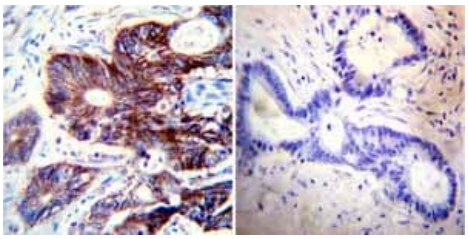
Immunohistochemistry was performed on both normal and cancer biopsies of deparaffinized Human tonsil tissue tissues. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:50 with a mouse monoclonal antibody recognizing Sodium/Potassium ATPase alpha-1 ab2872 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and

endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



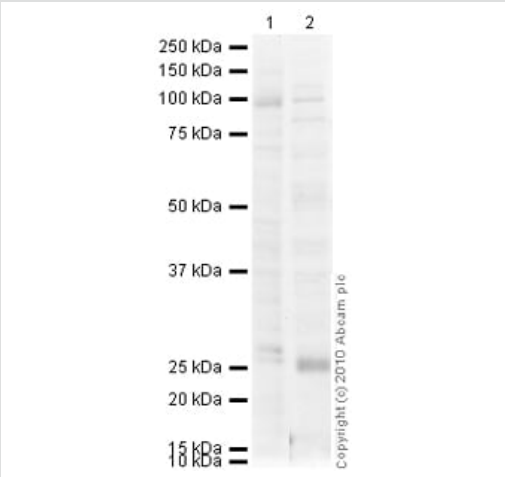
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872)

Immunohistochemistry was performed on both normal and cancer biopsies of deparaffinized Human kidney tissue tissues. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:100 with a mouse monoclonal antibody recognizing Sodium/Potassium ATPase alpha-1 ab2872 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872)

Immunohistochemistry was performed on both normal and cancer biopsies of deparaffinized Human colon carcinoma tissues. To expose target proteins heat induced antigen retrieval was performed using 10mM sodium citrate (pH6.0) buffer microwaved for 8-15 minutes. Following antigen retrieval tissues were blocked in 3% BSA-PBS for 30 minutes at room temperature. Tissues were then probed at a dilution of 1:200 with a mouse monoclonal antibody recognizing Sodium/Potassium ATPase alpha-1 ab2872 or without primary antibody (negative control) overnight at 4°C in a humidified chamber. Tissues were washed extensively with PBST and endogenous peroxidase activity was quenched with a peroxidase suppressor. Detection was performed using a biotin-conjugated secondary antibody and SA-HRP followed by colorimetric detection using DAB. Tissues were counterstained with hematoxylin and prepped for mounting.



Western blot - Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872)

All lanes : Anti-alpha 1 Sodium Potassium ATPase antibody [M8-P1-A3] (ab2872) at 1/500 dilution

Lane 1 : Human brain normal tissue lysate - membrane extract (**ab29456**)
Lane 2 : Human testis tissue lysate - total protein (**ab30257**)

Lysates/proteins at 10 µg per lane.

Secondary
All lanes : 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: 110 kDa
Observed band size: 100 kDa
Additional bands at: 25 kDa, 70 kDa. We are unsure as to the identity of these extra bands.

Exposure time: 8 minutes

The 100 kDa band observed is comparable to the molecular weight seen with other commercially available antibodies to alpha 1 Sodium Potassium ATPase.

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.

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