abcam

ab8344

Anti-ATP1B1 antibody [464.8]

Key facts

Isotype	IgG2a
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	464.8
Purification technique	Affinity purification
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1 µg for 10^6 Cells
Notes	ab170191 - Mouse monoclonal IgG2a, is suitable for use as an isotype control with this antibody.

Predicted

Species	Rat, Cow, Dog, Pig
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	1/500
Notes	-

Predicted

Species	Rat, Cow, Dog, Pig
Dilution info	-
Notes	-

Target data

See full target information ATP1B1

Function This is the non-catalytic component of the active enzyme, which catalyzes the hydrolysis of ATP coupled with the exchange of Na(+) and K(+) ions across the plasma membrane. The beta subunit regulates, through assembly of alpha/beta heterodimers, the number of sodium pumps transported to the plasma membrane (PubMed:19694409). Plays a role in innate immunity by enhancing virus-triggered induction of interferons (IFNs) and interferon stimulated genes (ISGs). Mechanistically, enhances the ubiquitination of TRAF3 and TRAF6 as well as the phosphorylation of TAK1 and TBK1 (PubMed:34011520). Involved in cell adhesion and establishing epithelial cell polarity.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	ATP1B1 also known as the beta-1 subunit of Na+/K+ ATPase plays an essential role in ion transport across the plasma membrane. The protein works as part of the sodium-potassium pump which helps maintain the cellular electrochemical gradient. The molecular mass of ATP1B1 is approximately 35 kDa. This target is expressed in various tissues including the heart kidney and brain where it supports the critical functions of excitable tissues and epithelial cell polarization.
Biological function summary	ATP1B1 contributes to establishing and maintaining cellular homeostasis as part of the Na+/K+ ATPase complex. This complex regulates the balance of sodium and potassium ions within cells important for nerve impulse transmission and muscle contraction. ATP1B1 interacts with the alpha subunit to modulate the enzyme's activity and transport kinetics highlighting its role in cell volume regulation and epithelial layer development.
Pathways	ATP1B1 is actively involved in the ion transport pathway and cellular signaling pathways such as WNT signaling. It works closely with proteins such as ATP1A1 and ATP1A2 which are different alpha subunits of the Na+/K+ ATPase. Through these pathways ATP1B1 affects cellular processes like membrane potential maintenance and intercellular communication essential for proper cellular function and organismal health.
Associated diseases and disorders	ATP1B1 shows a link to hypertension and polycystic ovary syndrome (PCOS). Mutations or dysfunctional expression of ATP1B1 can disrupt ion gradients contributing to these conditions. The protein connects with regulatory proteins including G-protein signaling regulators which can alter cellular responses in disease contexts. Understanding ATP1B1's involvement in these disorders helps in exploring therapeutic targets and improving patient outcomes.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

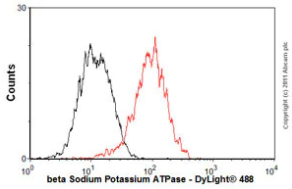
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

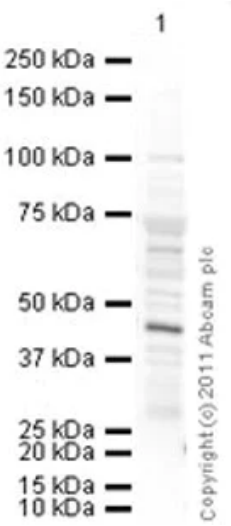
2 product images



Flow Cytometry (Intracellular) - Anti-ATP1B1 antibody [464.8] (ab8344)

ATP1B1 Flow Cytometry (Intracellular) staining using mouse Anti-ATP1B1 antibody

Overlay histogram showing HepG2 cells stained with ab8344 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab8344, 1/100 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2a [ICIGG2A] (ab91361, 1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.



Western blot - Anti-ATP1B1 antibody [464.8] (ab8344)

All lanes:
Western blot - Anti-ATP1B1 antibody [464.8] (ab8344) at 1/500 dilution

All lanes:
Human kidney tissue lysate - total protein (ab30203) at 20 µg

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 35 kDa

Observed band size: 45 kDa

Exposure time: 4min

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.