abcam

ab56441

Anti-ATP6V0D1/P39 antibody [2G12]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human ATP6V0D1 aa 200-350. The exact immunogen used to generate this antibody is proprietary information. Database link P61421
Clone number	2G12
Purity	Tissue culture supernatant
Light chain type	kappa

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	-
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information ATP6V0D1

Function

Subunit of the V0 complex of vacuolar(H+)-ATPase (V-ATPase), a multisubunit enzyme composed of a peripheral complex (V1) that hydrolyzes ATP and a membrane integral complex (V0) that translocates protons (PubMed:28296633, PubMed:30374053, PubMed:33065002). V-ATPase is responsible for acidifying and maintaining the pH of intracellular compartments and in some cell types, is targeted to the plasma membrane, where it is responsible for acidifying the extracellular environment (PubMed:30374053). May play a role in coupling of proton transport and ATP hydrolysis (By similarity). In aerobic conditions, involved in intracellular iron homeostasis, thus triggering the activity of Fe(2+) prolyl hydroxylase (PHD) enzymes, and leading to HIF1A hydroxylation and subsequent proteasomal degradation (PubMed:28296633). May play a role in cilium biogenesis through regulation of the transport and the localization of proteins to the cilium (By similarity).

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

This product was changed from ascites to tissue culture supernatant on 13th Feb 2019. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Supplementary info

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

Activity summary	ATP6V0D1 also known as P39 is a subunit of the V0 domain of the vacuolar ATPase (V-ATPase) complex. This protein has an approximate mass of 39 kDa. ATP6V0D1 is broadly expressed in various tissues with higher levels in metabolically active cells such as kidney and liver cells. The V-ATPase complex is essential for acidifying intracellular compartments which aids in numerous cellular processes including protein degradation and receptor-mediated endocytosis.
Biological function summary	ATP6V0D1 impacts the acidification necessary for intracellular processes by being a component of the V-ATPase complex. This complex functions as a proton pump moving protons across membranes to regulate pH in cellular compartments like lysosomes and endosomes. Proper function of V-ATPase and thereby of ATP6V0D1 is important for cellular homeostasis and energy metabolism. Disruption of these processes could impair critical functions such as protein degradation and nutrient processing.
Pathways	ATP6V0D1 plays roles in key cellular pathways such as the glucose metabolism pathway and protein processing in the endoplasmic reticulum. In these pathways ATP6V0D1 works closely with other proteins like ATP6V1 subunits within the V-ATPase complex. Its involvement in these pathways highlights not only its importance in cellular energy balance but also in maintaining the structural integrity of cells under varying metabolic conditions.
Associated diseases and disorders	ATP6V0D1 is linked to conditions such as osteopetrosis and renal tubular acidosis. These disorders relate to the malfunction of acidification in cells where ATP6V0D1 expression is important highlighting the connection between disrupted ATP6V0D1 function and impaired cellular processes. Proteins like ATP6V0A1 another subunit of the V-ATPase complex also play a role in these conditions emphasizing the need

for functional cooperation among these proteins to maintain normal physiological states.

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

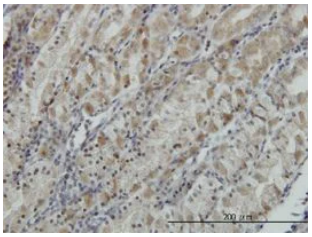
We do not recommend this combination. It is not covered by our product promise.

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.

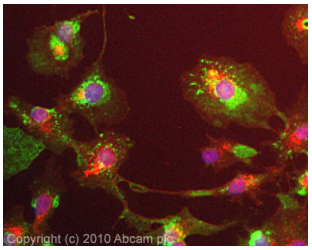
4 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATP6V0D1/P39 antibody [2G12] (ab56441)

ATP6V0D1/P39 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-ATP6V0D1/P39 antibody

ATP6V0D1/P39 antibody (ab56441) used in immunohistochemistry at 5ug/ml on formalin fixed and paraffin embedded human stomach.
This image was generated using the ascites version of the product.

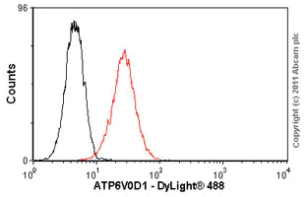


Immunocytochemistry/ Immunofluorescence - Anti-ATP6V0D1/P39 antibody [2G12] (ab56441)

ATP6V0D1/P39 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-ATP6V0D1/P39 antibody

ICC/IF image of ab56441 stained HeLa cells. The cells were 4% formaldehyde 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 (ab56441, 10µg/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.

This image was generated using the ascites version of the product.

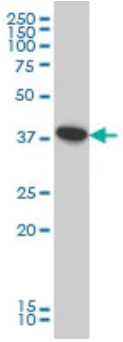


Flow Cytometry - Anti-ATP6V0D1/P39 antibody [2G12] (ab56441)

ATP6V0D1/P39 Flow Cytometry staining using mouse Anti-ATP6V0D1/P39 antibody

Overlay histogram showing HeLa cells stained with ab56441 (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 (ab56441, 1µg/1x10^6 cells) 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 a mix of 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 HeLa cells fixed with 4%PFA/permeabilized in 0.1% PBS-Tween used under the same conditions.

This image was generated using the ascites version of the product.



Western blot - Anti-ATP6V0D1/P39 antibody [2G12] (ab56441)

ATP6V0D1/P39 Western blot staining using mouse Anti-ATP6V0D1/P39 antibody

ATP6V0D1/P39 antibody (ab56441) at 1ug/lane + HeLa cell lysate at 25ug/lane.
This image was generated using the ascites version of the product.

All lanes:
Western blot - Anti-ATP6V0D1/P39 antibody [2G12] (ab56441)

Predicted band size: 40 kDa

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