abcam

ab251267

Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR19270
Purification technique	Affinity purification Protein A
Concentration	1.049 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse, Human
Dilution info	-

Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IP

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Expected

Species	Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

Species	Mouse, Rat
Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information ATP6V1A

Function	Catalytic subunit of the V1 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:8463241). 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:32001091). 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 neurite development and synaptic connectivity (PubMed:29668857). (Microbial infection) Plays an important role in virion uncoating during Rabies virus replication after membrane fusion. Specifically, participates in the dissociation of incoming viral matrix M proteins uncoating through direct interaction.

Storage

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

Storage information	Do Not Freeze

Notes

ab251267 is the carrier-free version of ab199326.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	ATP6V1A also known as V-ATPase subunit A is a component of the V1 domain of the vacuolar ATPase (V-ATPase) which is a large enzyme responsible for acidifying intracellular compartments. This protein has a mass of approximately 70 kDa and operates in cellular processes by hydrolyzing ATP to drive protons across membranes. ATP6V1A displays significant expression in several cell types including neurons epithelial cells and osteoclasts. The protein enables V-ATPase functionality important for maintaining the pH balance inside cells and organelles facilitating various physiological processes.
Biological function summary	ATP6V1A is an integral part of the V1 domain of the V-ATPase complex a multi-subunit assembly critical for the acidification of intracellular organelles such as lysosomes endosomes and the Golgi apparatus. This activity supports processes like protein degradation receptor-mediated endocytosis and membrane trafficking. The V-ATPase containing ATP6V1A uses energy from ATP hydrolysis to pump protons which is essential for cellular homeostasis and ion transport.

Pathways	ATP6V1A plays an important role in the endocytosis and autophagy pathways. These pathways depend on the acidification of intracellular compartments enabling processes such as the breakdown and recycling of cellular components. ATP6V1A is related to proteins like V-ATPase subunit c (ATP6V1C) and other subunits that form the V-ATPase enzyme. These protein interactions allow the modulation and execution of cellular transport and hormone regulation pathways.
Associated diseases and disorders	Mutations or dysregulation of ATP6V1A have been linked to renal tubular acidosis and osteoporosis where improper acidification impacts bone resorption and kidney function. The protein connections include its interaction with other V-ATPase subunits like ATP6V0A3 which can also result in osteopetrosis when defective. Such conditions demonstrate how ATP6V1A's role in acidification processes is important for normal physiological function and how its dysfunction leads to disease.

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

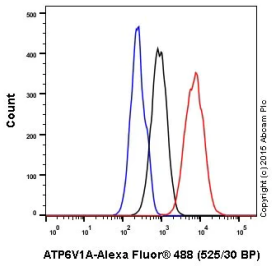
We do not recommend this combination. It is not covered by our product promise.

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.

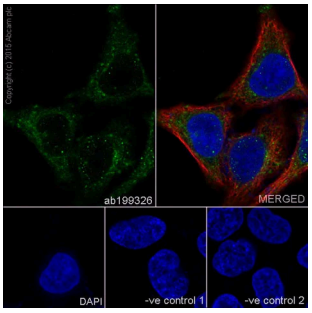
12 product images



Flow Cytometry (Intracellular) - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

ATP6V1A Flow Cytometry (Intracellular) staining using rabbit Anti-ATP6V1A antibody

This data was developed using ab199326, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling ATP6V1A with ab199326 at 1/120 dilution (red) compared with a Rabbit IgG,monoclonal -Isotype Control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/500 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

ATP6V1A Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ATP6V1A antibody

This data was developed using ab199326, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 100% methanol-fixed, 0.1% Triton X-100 permeabilized HeLa (Human epithelial cell line from cervix adenocarcinoma) cells labeling ATP6V1A with ab199326 at 1/250 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).

Confocal image showing cytoplasmic staining on HeLa cell line.

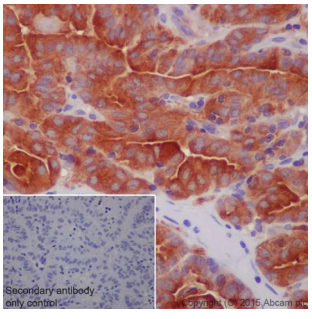
The nuclear counterstain is DAPI (blue).

Tubulin is detected with Anti-alpha Tubulin antibody [EPR19270]- Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) preadsorbed (ab150120) at 1/1000 dilution (red).

The negative controls are as follows:-

-ve control 1: ab199326 at 1/250 dilution followed by ab150120 at 1/1000 dilution.

-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

ATP6V1A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATP6V1A antibody

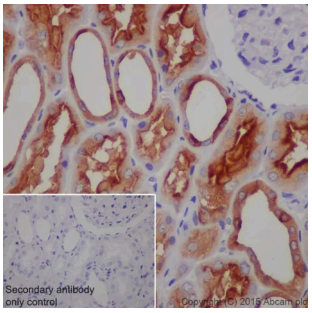
This data was developed using ab199326, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human thyroid cancer tissue labeling ATP6V1A with ab199326 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Cytoplasm staining on tumor cells of the Human thyroid cancer is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

ATP6V1A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATP6V1A antibody

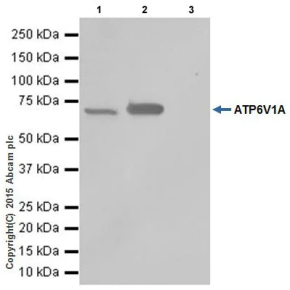
This data was developed using ab199326, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded Human kidney tissue labeling ATP6V1A with ab199326 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Cytoplasm staining on kidney tubules of the normal Human kidney is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

This data was developed using ab199326, the same antibody clone in a different buffer formulation.
ATP6V1A was immunoprecipitated from 1mg of HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate with ab199326 at 1/40 dilution.

Western blot was performed from the immunoprecipitate using ab199326 at 1/1000 dilution.

VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.

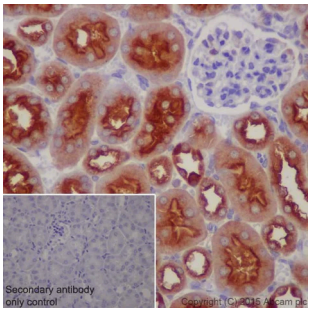
Lane 1: HeLa whole cell lysate 10µg (Input).
Lane 2: ab199326 IP in HeLa whole cell lysate.
Lane 3: Rabbit IgG,monoclonal [EPR19270] - Isotype Control (ab172730) instead of ab199326 in HeLa whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 5 seconds.

All lanes:
Immunoprecipitation - Anti-ATP6V1A antibody [EPR19270] (ab199326)

Predicted band size: 68 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

ATP6V1A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATP6V1A antibody

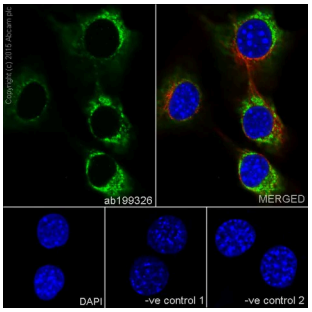
This data was developed using ab199326, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded mouse kidney tissue labeling ATP6V1A with ab199326 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Cytoplasm staining on kidney tubules of the mouse kidney is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

ATP6V1A Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ATP6V1A antibody

This data was developed using ab199326, the same antibody clone in a different buffer formulation.

Immunofluorescent analysis of 100% methanol-fixed, 0.1% Triton X-100 permeabilized NIH/3T3 (Mouse embryonic fibroblast cell line) cells labeling ATP6V1A with ab199326 at 1/250 dilution, followed by Goat Anti-Rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).

Confocal image showing cytoplasmic staining on NIH/3T3 cell line.

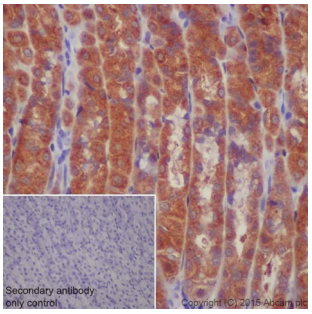
The nuclear counterstain is DAPI (blue).

Tubulin is detected with Anti-alpha Tubulin antibody [EPR19270] - Loading Control (ab7291) at 1/1000 dilution and Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) preadsorbed (ab150120) at 1/1000 dilution (red).

The negative controls are as follows:-

-ve control 1: ab199326 at 1/250 dilution followed by ab150120 at 1/1000 dilution.

-ve control 2: ab7291 at 1/1000 dilution followed by ab150077 at 1/1000 dilution.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

ATP6V1A Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATP6V1A antibody

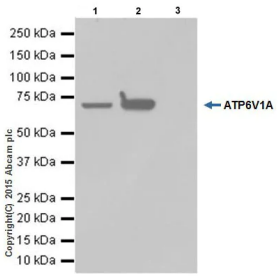
This data was developed using ab199326, the same antibody clone in a different buffer formulation.
Immunohistochemical analysis of paraffin-embedded rat stomach tissue labeling ATP6V1A with ab199326 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Cytoplasm staining on rat stomach tissue is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

This data was developed using ab199326, the same antibody clone in a different buffer formulation.
ATP6V1A was immunoprecipitated from 1mg of NIH/3T3 (Mouse embryonic fibroblast cell line) whole cell lysate with ab199326 at 1/40 dilution.

Western blot was performed from the immunoprecipitate using ab199326 at 1/1000 dilution.

VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.

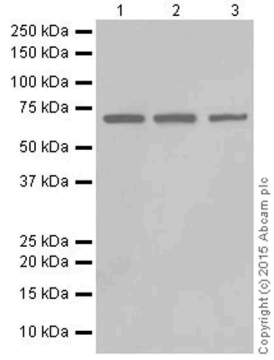
Lane 1: NIH/3T3 whole cell lysate 10µg (Input).
Lane 2: ab199326 IP in NIH/3T3 whole cell lysate.
Lane 3: Rabbit IgG,monoclonal [EPR19270] - Isotype Control (ab172730) instead of ab199326 in NIH/3T3 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 5 seconds.

All lanes:
Immunoprecipitation - Anti-ATP6V1A antibody [EPR19270] (ab199326)

Predicted band size: 56 kDa, 68 kDa



Western blot - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

This data was developed using ab199326, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-ATP6V1A antibody [EPR19270] (ab199326) at 1/2000 dilution

Lane 1:
HeLa (Human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 2:
K562 (Human chronic myelogenous leukemia cell line from bone marrow) whole cell lysate at 20 µg

Lane 3:
HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysate at 20 µg

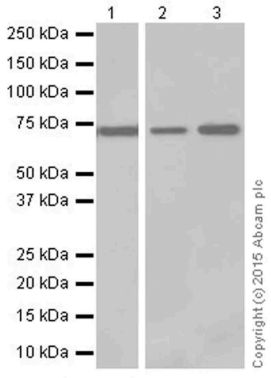
Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 68 kDa

Observed band size: 68 kDa

Exposure time: 8s



Western blot - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

ATP6V1A Western blot staining using rabbit Anti-ATP6V1A antibody

This data was developed using ab199326, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure times: Lane 1: 3 minutes; Lanes 2-3: 8 seconds.

All lanes:
Western blot - Anti-ATP6V1A antibody [EPR19270] (ab199326) at 1/2000 dilution

Lane 1:
Human fetal heart lysate at 10 µg

Lane 2:
Human fetal liver lysate at 10 µg

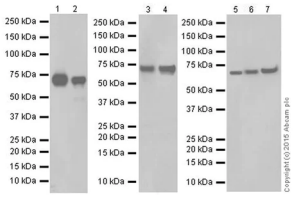
Lane 3:
Human fetal kidney lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG Peroxidase Conjugate, specific to the non-reduced form of IgG at 1/10000 dilution

Predicted band size: 68 kDa

Observed band size: 68 kDa



Western blot - Anti-ATP6V1A antibody [EPR19270] - BSA and Azide free (ab251267)

ATP6V1A Western blot staining using rabbit Anti-ATP6V1A antibody

This data was developed using ab199326, the same antibody clone in a different buffer formulation.
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure times: Lanes 1-2: 4 seconds; Lanes 3-4: 1 second; Lanes 5-7: 4 seconds.

All lanes:
Western blot - Anti-ATP6V1A antibody [EPR19270] (ab199326) at 1/2000 dilution

Lane 1:
Mouse brain lysate at 10 µg

Lane 2:
Mouse kidney lysate at 10 µg

Lane 3:
Rat brain lysate at 10 µg

Lane 4:
Rat kidney lysate at 10 µg

Lane 5:

C6 (Rat glial tumor cell line) whole cell lysate at 10 µg

Lane 6:
PC-12 (Rat adrenal gland pheochromocytoma cell line) whole cell lysate at 10 µg

Lane 7:
NIH/3T3 (Mouse embryo fibroblast cell line) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 68 kDa

Observed band size: 68 kDa

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