abcam

ab199423

Anti-ATE1 antibody [EPR13667(2)] - N-terminal

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR13667(2)
Purification technique	Affinity purification Protein A
Concentration	1.194 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat

Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/220
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Human
Dilution info	1/100

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

Target data

See full target information ATE1

Function	Involved in the post-translational conjugation of arginine to the N-terminal aspartate or glutamate of a protein (PubMed:34893540). This arginylation is required for degradation of the protein via the ubiquitin pathway (PubMed:34893540). Does not arginylate cysteine residues (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
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

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.

Supplementary info

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

Activity summary	ATE1 also known as Arginyltransferase 1 is an important enzyme that plays a mechanical role in cellular processes. It is responsible for adding the amino acid arginine to the N-terminus of certain target proteins a modification important for protein stability and function. ATE1 has a molecular mass of approximately 75 kDa. This enzyme is expressed in various tissues with higher expression levels observed in the heart liver and brain indicating its importance in these areas.
Biological function summary	ATE1 acts as a regulator in protein degradation by tagging proteins with arginine marking them for ubiquitination and subsequent proteasomal degradation. This function is critical for controlling the protein turnover and maintaining cellular homeostasis. ATE1 functions independently and is not known to be a part of any larger protein complex emphasizing its specific role in post-translational modification of proteins.
Pathways	This arginylation process by ATE1 integrates into the ubiquitin-proteasome system a pathway significant for protein catabolism. It plays a role in cellular stress responses linking closely with the protein degradation pathways to control damaged or misfolded proteins. ATE1's activity interacts with proteins such as ubiquitin ligases which assist in the tagging and recognition of proteins for degradation ensuring proper proteostasis.
Associated diseases and disorders	ATE1 has been implicated in cardiac hypertrophy and cancer. Altered expression or activity of ATE1 can contribute to the dysregulation of protein turnover in the heart connecting it to cardiac hypertrophy. In cancer abnormal arginylation can affect cellular homeostasis and lead to uncontrollable cell proliferation. ATE1 connects to proteins like N-end rule substrates in the context of these diseases acting as a potential biomarker or therapeutic target for disease intervention.

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

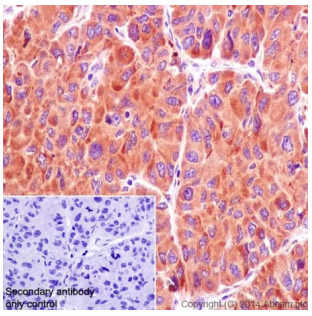
We do not recommend this combination. It is not covered by our product promise.

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.

9 product images

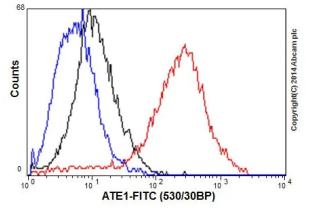


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423)

ATE1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATE1 antibody

Immunohistochemical analysis of paraffin-embedded human hepatocellular carcinoma tissue labeling ATE1 with ab199423 at 1/250 followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500. Cytoplasmic staining on human hepatocellular carcinoma tissue is observed (Subcellular location: Nucleus and cytoplasm [UniProt]). Counter-stained with hematoxylin.
Negative control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

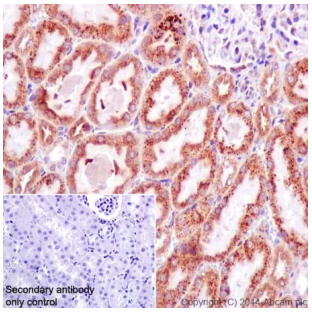
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Flow Cytometry (Intracellular) - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423)

ATE1 Flow Cytometry (Intracellular) staining using rabbit Anti-ATE1 antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa (Human epithelial cells from cervix adenocarcinoma) cells labeling ATE1 with ab199423 at 1/220 dilution (red) compared with a rabbit monoclonal IgG isotype control (black) and a unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (FITC) at 1/150 dilution was used as the secondary antibody.

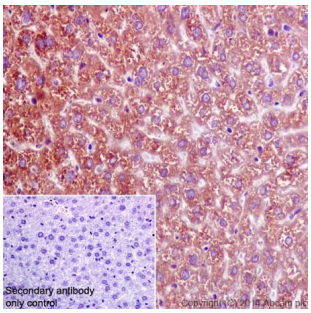


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423)

ATE1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATE1 antibody

Immunohistochemical analysis of paraffin-embedded Rat kidney tissue labeling ATE1 with ab199423 at 1/250 followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500. Cytoplasm staining on Rat kidney tissue is observed (Subcellular location: Nucleus and Cytoplasm [UniProt]) . Counter stained with Hematoxylin.
Negative control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500 dilution.

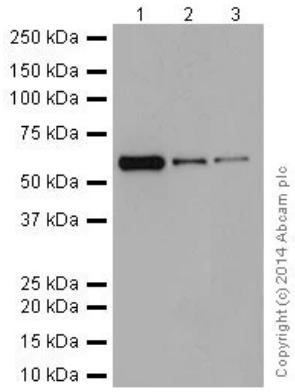
Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423)

ATE1 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATE1 antibody

Immunohistochemical analysis of paraffin-embedded Mouse liver tissue labeling ATE1 with ab199423 at 1/250 followed by Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/500. Cytoplasm staining on Mouse liver tissue is observed (Subcellular location: Nucleus and Cytoplasm [UniProt]) . Counter stained with Hematoxylin.
Negative 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.



Western blot - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423)

ATE1 Western blot staining using rabbit Anti-ATE1 antibody

Blocking and diluting buffer 5% NFDM/TBST
All lanes:
Western blot - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423) at 1/10000 dilution

Lane 1:
HepG2 (Human liver hepatocellular carcinoma) whole cell lysate at 20 µg

Lane 2:
HeLa (Human epithelial cells from cervix adenocarcinoma) whole cell lysate at 20 µg

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

Secondary

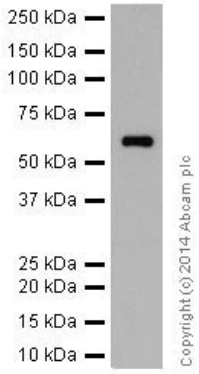
All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 59 kDa

Observed band size: 59 kDa

Exposure time: 3min



Western blot - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423)

Blocking and diluting buffer 5% NFDM/TBST
All lanes:
Western blot - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423) at 1/10000 dilution

All lanes:
Human fetal liver tissue lysate at 10 µg

Secondary

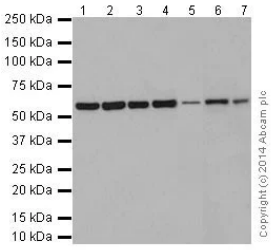
All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 59 kDa

Observed band size: 59 kDa

Exposure time: 10s



Western blot - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423)

Blocking and diluting buffer 5% NFDM/TBST
All lanes:
Western blot - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423) at 1/1000 dilution

Lane 1:
C6 (Rat glial tumor cells) whole cell lysate at 10 µg

Lane 2:
Raw264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysate at 10 µg

Lane 3:
PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate at 10 µg

Lane 4:
NIH/3T3 (Mouse embryo fibroblast cells) whole cell lysate at 10 µg

Lane 5:
Mouse kidney tissue lysate at 10 µg

Lane 6:
Rat kidney tissue lysate at 10 µg

Lane 7:
Rat spleen tissue lysate at 10 µg

Secondary

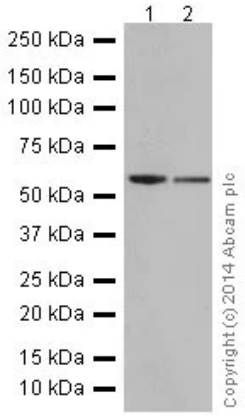
All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 59 kDa

Observed band size: 59 kDa

Exposure time: 3min



Western blot - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423)

ATE1 Western blot staining using rabbit Anti-ATE1 antibody

Blocking and diluting buffer 5% NFDM/TBST
All lanes:
Western blot - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423) at 1/1000 dilution

Lane 1:
Mouse brain tissue lysate at 10 µg

Lane 2:
Mouse spleen tissue lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/1000 dilution

Developed using the ECL technique.

Predicted band size: 59 kDa

Observed band size: 59 kDa

Exposure time: 1min

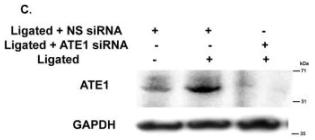


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Western blot - Anti-ATE1 antibody [EPR13667(2)] - N-terminal (ab199423)

ATE1 western blot using anti-ATE1 antibody [EPR13667(2)] - N-terminal ab199423. Publication image and figure legend from Singh, K., Gupta, A., et al., 2020, Sci Rep, PubMed 31953451.

ab199423 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab199423 please see the product overview.

ATE1 expression is upregulated by hypertrophic stimuli. (A) Quantitative real-time PCR analysis of mRNA levels of ATE1 in Ang II treated H9C2 cells. (B) Transcriptional levels of ATE1 in heart samples from rat subjected to ligation of right renal artery (Ligated) and sham-operated control (Sham) rats. (C) Western blot analysis of ATE1 protein levels in heart samples from sham and renal ligated rats. Data were derived from experiments performed in triplicate and normalized to GAPDH content. Statistical analysis was carried out by student’ s two-tailed t-test (*shows non-specific binding of antibody).

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