abcam

ab188321

Anti-ATIC antibody [EPR13243-53]

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	EPR13243-53
Purification technique	Affinity purification Protein A
Concentration	0.844 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/40 - 1/60
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/140
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Target data

See full target information ATIC

Function	Bifunctional enzyme that catalyzes the last two steps of purine biosynthesis (PubMed:11948179, PubMed:14756554). Acts as a transformylase that incorporates a formyl group to the AMP analog AICAR (5-amino-1-(5-phospho-beta-D-ribosyl)imidazole-4-carboxamide) to produce the intermediate formyl-AICAR (FAICAR) (PubMed:10985775, PubMed:11948179, PubMed:9378707). Can use both 10-formyldihydrofolate and 10-formyltetrahydrofolate as the formyl donor in this reaction (PubMed:10985775). Also catalyzes the cyclization of FAICAR to inosine monophosphate (IMP) (PubMed:11948179, PubMed:14756554). Is able to convert thio-AICAR to 6-mercaptopurine ribonucleotide, an inhibitor of purine biosynthesis used in the treatment of human leukemias (PubMed:10985775). Promotes insulin receptor/INSR autophosphorylation and is involved in INSR internalization (PubMed:25687571).

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	ATIC also known as AICAR transformylase/IMP cyclohydrolase is a bifunctional enzyme involved in purine biosynthesis within cells. It has a molecular mass of approximately 64 kDa. This enzyme is found in various tissues including liver kidney and brain. It catalyzes the last two steps in the de novo purine biosynthesis pathway playing an important role in cellular proliferation and energy homeostasis.
Biological function summary	ATIC participates importantly in purine metabolism by facilitating the conversion of 5-aminoimidazole-4-carboxamide ribonucleotide (AICAR) into inosine monophosphate (IMP). It acts both as a transformylase and cyclohydrolase forming part of the multi-enzyme purinosome complex. This involvement ensures efficient synthesis of IMP which is a precursor for adenosine and guanosine nucleotide production essential for DNA and RNA synthesis.
Pathways	ATIC is integral to the de novo purine biosynthesis pathway a critical cellular process for generating nucleotides. It interacts with other enzymes in this pathway such as phosphoribosylaminoimidazole carboxamide formyltransferase (PAIC) and adenylosuccinate lyase (ADSL) ensuring a steady supply of nucleotides. This pathway is also linked to the folate cycle highlighting the importance of ATIC in broader metabolic contexts.
Associated diseases and disorders	ATIC has associations with several conditions notably cancer and autoimmune diseases. Its role in purine and folate metabolism makes it a target in cancer

therapies where fast-dividing cells depend on nucleotide synthesis. ATIC also connects to dihydrofolate reductase (DHFR) due to the shared pathway implicating both in therapies aimed at autoimmune conditions like rheumatoid arthritis. Understanding ATIC's function and interaction plays a part in advancing disease treatment strategies.

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

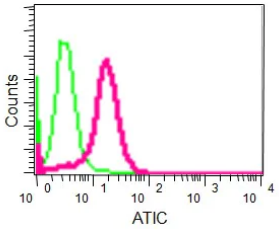
We do not recommend this combination. It is not covered by our product promise.

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.

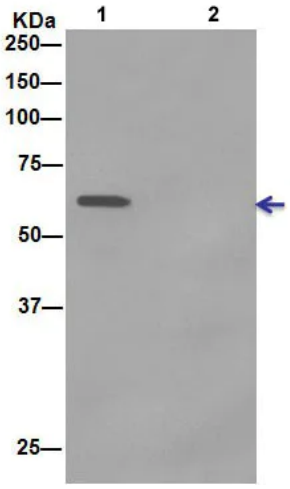
3 product images



Flow Cytometry (Intracellular) - Anti-ATIC antibody [EPR13243-53] (ab188321)

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

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa cells labeling ATIC with ab188321 at 1/140 dilution (red) compared to a Rabbit monoclonal IgG isotype control (green), followed by Goat anti rabbit IgG (FITC) secondary antibody at 1/150 dilution.

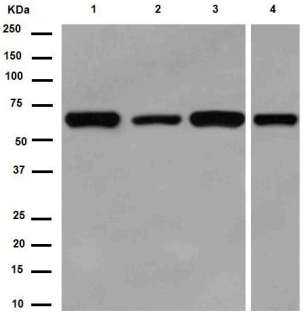


Immunoprecipitation - Anti-ATIC antibody [EPR13243-53] (ab188321)

Western blot analysis of ATIC in Jurkat cell lysate immunoprecipitated with ab188321 at 1/50 dilution (Lane 1). Lane 2: PBS instead of Jurkat lysate.
Secondary antibody: Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1500 dilution.

All lanes:
Immunoprecipitation - Anti-ATIC antibody [EPR13243-53] (ab188321)

Predicted band size: 65 kDa



Western blot - Anti-ATIC antibody [EPR13243-53] (ab188321)

All lanes:
Western blot - Anti-ATIC antibody [EPR13243-53] (ab188321) at 1/10000 dilution

Lane 1:
Jurkat cell lysate at 20 µg

Lane 2:
HeLa cell lysate at 20 µg

Lane 3:
HepG2 cell lysate at 20 µg

Lane 4:
HCT-116 cell lysate at 20 µg

Secondary

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

Predicted band size: 65 kDa

Observed band size: 65 kDa

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