abcam

ab232532

Anti-ATIC antibody [EPR13243-53] - 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	EPR13243-53
Purification technique	Affinity purification Protein A

Reactivity data

IP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
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	Blue Ice
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab232532 is the carrier-free version of ab188321.

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	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

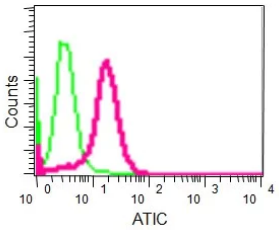
We do not recommend this combination. It is not covered by our product promise.

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.

2 product images

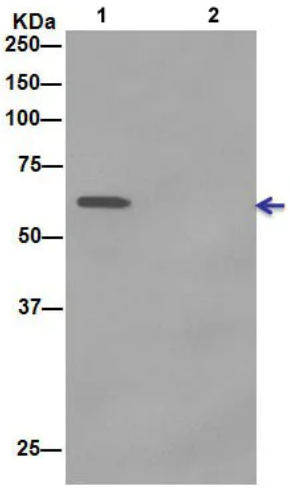


Flow Cytometry (Intracellular) - Anti-ATIC antibody [EPR13243-53] - BSA and Azide free (ab232532)

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

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa (human epithelial cell line from cervix adenocarcinoma) 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.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188321).



Immunoprecipitation - Anti-ATIC antibody [EPR13243-53] - BSA and Azide free (ab232532)

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.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab188321).

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

Predicted band size: 65 kDa

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