abcam

ab250484

Anti-APOBEC3C/PBI antibody [EPR13417] - 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	EPR13417
Purification technique	Affinity purification Protein A
Concentration	0.991 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Not recommended

Species	Human
Dilution info	-

Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information APOBEC3C

Function	DNA deaminase (cytidine deaminase) which acts as an inhibitor of retrovirus replication and retrotransposon mobility via deaminase-dependent and -independent mechanisms. After the penetration of retroviral nucleocapsids into target cells of infection and the initiation of reverse transcription, it can induce the conversion of cytosine to uracil in the minus-sense single-strand viral DNA, leading to G-to-A hypermutations in the subsequent plus-strand viral DNA. The resultant detrimental levels of mutations in the proviral genome, along with a deamination-independent mechanism that works prior to the proviral integration, together exert efficient antiretroviral effects in infected target cells. Selectively targets single-stranded DNA and does not deaminate double-stranded DNA or single- or double-stranded RNA. Exhibits antiviral activity against simian immunodeficiency virus (SIV), hepatitis B virus (HBV), herpes simplex virus 1 (HHV-1) and Epstein-Barr virus (EBV) and may inhibit the mobility of LTR and non-LTR retrotransposons. May also play a role in the epigenetic regulation of gene expression through the process of active DNA demethylation.

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

ab250484 is the carrier-free version of ab181356.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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	APOBEC3C also known as 'PBI courier' is an enzyme that belongs to the cytidine deaminase family. This enzyme has a molecular weight of about 23 kDa. APOBEC3C functions by catalyzing the deamination of cytidine to uridine on single-stranded DNA. This process leads to mutations in viral DNA contributing to their inactivation. APOBEC3C is widely expressed in the human body with higher expression observed in immune-related tissues such as the spleen lymph nodes and peripheral blood leukocytes.
Biological function summary	APOBEC3C plays a role in the innate immune defense against viral infections. It belongs to a larger family of APOBEC3 enzymes which often work together as a complex to provide antiviral activity. The APOBEC3C enzyme contributes to the restriction of certain retroviruses and endogenous retroelements by introducing hypermutations into their genomes during replication. The presence of multiple APOBEC3 proteins within this complex suggests redundancy and diverse antiviral functions in human immunity.
Pathways	APOBEC3C is involved in the innate immune response pathway which recognizes and responds to pathogen infections including viral invasions. It interacts with other members of the APOBEC3 family such as APOBEC3G and APOBEC3B forming an elaborate network that defends the host genome from viral invasion. The enzymatic activity of APOBEC3C fits into the restriction pathway providing a protective mechanism against viral infections and maintaining genomic stability.
Associated diseases and disorders	APOBEC3C's hypermutation activity is connected to the progression of HIV-1 where the virus may evolve escape mutants. Additionally the enzymatic action of APOBEC3C has been implicated in cancer especially in relation to the mutation profiles found in some tumor types. The interplay with other APOBEC3 proteins like APOBEC3B increases the complexity of their involvement in cancer mutagenesis and antiviral immunity highlighting the enzyme's dual role in protecting against pathogens and potentially promoting genomic instability.

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

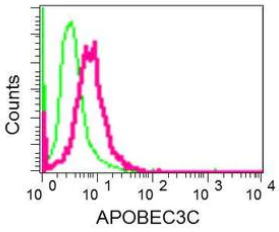
We do not recommend this combination. It is not covered by our product promise.

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.

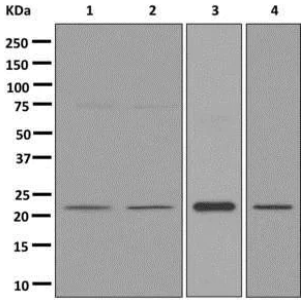
2 product images



Flow Cytometry (Intracellular) - Anti-APOBEC3C/PBI antibody [EPR13417] - BSA and Azide free (ab250484)

APOBEC3C/PBI Flow Cytometry (Intracellular) staining using rabbit Anti-APOBEC3C/PBI antibody

This data was developed using ab181356, the same antibody clone in a different buffer formulation.
Intracellular flow cytometric analysis of permeabilized HeLa cells labeling APOBEC3C/PBI with ab181356 at 1/10 dilution (red) compared to a rabbit IgG negative control (green).



Western blot - Anti-APOBEC3C/PBI antibody [EPR13417] - BSA and Azide free (ab250484)

This data was developed using ab181356, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-APOBEC3C/PBI antibody [EPR13417] (ab181356) at 1/1000 dilution

Lane 1:
Jurkat cell lysate at 10 µg

Lane 2:
Daudi cell lysate at 10 µg

Lane 3:
K562 cell lysate at 10 µg

Lane 4:
HeLa cell lysate at 10 µg

Predicted band size: 23 kDa

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