

APOBEC3B Antibody

Catalog # ASC11775

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9UH17
Other Accession	NP_004891 , 393715117
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	45924
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	APOBEC3B antibody can be used for detection of APOBEC3B by Western blot at 1 - 2 μ g/ml. Antibody can also be used for Immunohistochemistry at 5 μ g/mL. For Immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	9582
Other Names	DNA dC->dU-editing enzyme APOBEC-3B, A3B, 3.5.4.-, Phorbolin-1-related protein, Phorbolin-2/3, APOBEC3B
Target/Specificity	APOBEC3B; APOBEC3B antibody is human, mouse and rat reactive . At least three isoforms of APOBEC3B are known to exist; this antibody will detect all three. APOBEC3B antibody may cross-react with APOBEC3D.
Reconstitution & Storage	APOBEC3B antibody can be stored at 4°C for three months and -20°C, stable for up to one year.
Precautions	APOBEC3B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	APOBEC3B
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) and human T-cell leukemia virus type 1 (HTLV-1) and may inhibit the mobility of LTR and non-LTR retrotransposons.

Cellular Location

Nucleus

Tissue Location

Expressed at high and moderate levels in peripheral blood leukocytes, spleen, testes, heart, thymus, prostate and ovary Also expressed at low levels in several other tissues

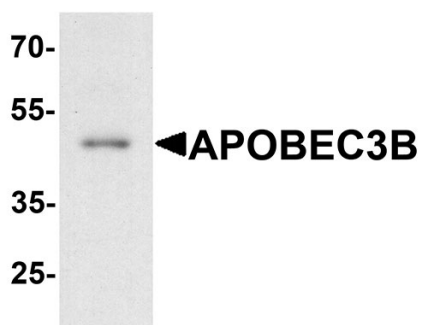
Background

The Apolipoprotein B mRNA-editing, enzyme-catalytic, polypeptide-like (APOBEC) 3 is a multi-isoform member of the cytosine deaminase family of enzymes that act on monomeric nucleoside and nucleotide substrates (1). Similar to TRIM5 α which targets incoming retroviral capsids, APOBEC3 plays a major role in cellular defense against retroviral infection (2,3). APOBEC3B has also been shown to be upregulated in several cancers; it is thought that APOBEC3B-catalyzed genomic uracil lesions are responsible for a large proportion of mutations in multiple distinct cancers (4).

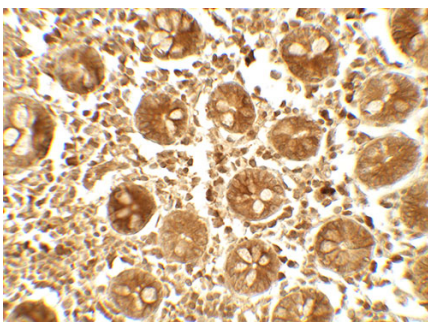
References

Jarmuz A, Chester A, Bayliss J, et al. An anthropoid-specific locus of Orphan C to U RNA-editing enzymes on chromosome 22. *Genomics* 2002; 79:285-96.
Stremlau M, Owens CM, Perron MJ, et al. The cytoplasmic body component TRIM5 α restricts HIV-1 infection in Old World monkeys. *Nature* 2004; 427:848-53.
Bieniasz PD. Intrinsic immunity: a front-line defense against viral attack. *Nat Immunol.* 2004; 5:1109-15.
Burns MB, Temiz NA, and Harris RS. Evidence for APOBEC3B mutagenesis in multiple human cancers. *Nat. Genet.* 2013; 45:977-83.

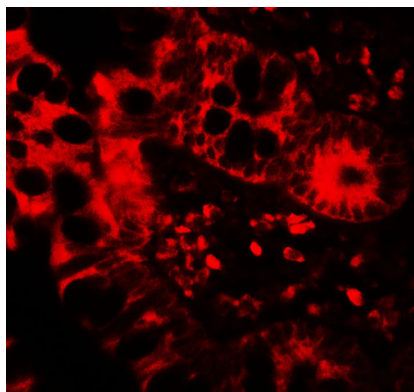
Images



Western blot analysis of APOBEC3B in rat small intestine tissue lysate with APOBEC3B antibody at 1 μ g/ml.



Immunohistochemistry of APOBEC3B in human small intestine tissue with APOBEC3B antibody at 5 μ g/mL.



Immunofluorescence of APOBEC3B in human small intestine tissue with APOBEC3B antibody at 20 µg/mL.

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