10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-APOBEC3G Picoband Antibody

Catalog # ABO12670

Product Information

Application	WB, IHC-P
Primary Accession	Q9HC16
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for DNA dC->dU-editing enzyme APOBEC-3G(APOBEC3G) detection. Tested with WB, IHC-P in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	60489
Other Names	DNA dC->dU-editing enzyme APOBEC-3G, 3.5.4.-, APOBEC-related cytidine deaminase, APOBEC-related protein, ARCD, APOBEC-related protein 9, ARP-9, CEM-15, CEM15, Deoxycytidine deaminase, A3G, APOBEC3G
Calculated MW	46408
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, By Heat Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Cytoplasm. Nucleus. Cytoplasm, P-body. Mainly cytoplasmic. Small amount are found in the nucleus. During HIV-1 infection, virion-encapsidated in absence of HIV-1 VIF.
Tissue Specificity	Expressed in spleen, testes, ovary and peripheral blood leukocytes and CD4+ lymphocytes. Also expressed in non-permissive peripheral blood mononuclear cells, and several tumor cell lines; no expression detected in permissive lymphoid and non-lymphoid cell lines. Exists only in the LMM form in peripheral blood-derived resting CD4 T-cells and monocytes, both of which are refractory to HIV-1 infection. LMM is converted to a HMM complex when resting CD4 T-cells are activated or when monocytes are induced to differentiate into macrophages. This change correlates with increased susceptibility of these cells to HIV-1 infection. .
Source	Eukaryota
Protein Name	DNA dC->dU-editing enzyme APOBEC-3G

Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human APOBEC3G recombinant protein (Position: E191-N384).
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.

Protein Information

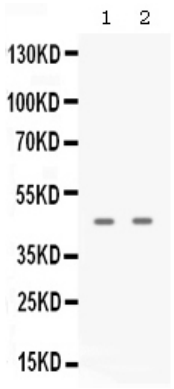
Name	APOBEC3G {ECO:0000303|PubMed:14557625, ECO:0000312|HGNC:HGNC:17357}
Function	DNA deaminase (cytidine deaminase) which acts as an inhibitor of retrovirus replication and retrotransposon mobility via deaminase- dependent and -independent mechanisms (PubMed:12808465, PubMed:16527742, PubMed:17121840, PubMed:18288108, PubMed:18849968, PubMed:19153609, PubMed:21123384, PubMed:22791714, PubMed:25542899). Exhibits potent antiviral activity against Vif-deficient HIV-1 (PubMed:12167863, PubMed:12859895, PubMed:14557625, PubMed:20219927, PubMed:21835787, PubMed:22807680, PubMed:22915799, PubMed:23097438, PubMed:23152537, PubMed:31397674). 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 (PubMed:12808465, PubMed:12808466, PubMed:12809610, PubMed:12970355, PubMed:14528300, PubMed:22807680). 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 (PubMed:12808465, PubMed:12808466, PubMed:12809610, PubMed:12970355, PubMed:14528300). Selectively targets single-stranded DNA and does not deaminate double-stranded DNA or single- or double-stranded RNA (PubMed:12808465, PubMed:12809610, PubMed:12970355, PubMed:14528300). Exhibits antiviral activity also against simian immunodeficiency viruses (SIVs), hepatitis B virus (HBV), equine infectious anemia virus (EIAV), xenotropic MuLV-related virus (XMRV) and simian foamy virus (SFV) (PubMed:15031497, PubMed:16378963, PubMed:18448976, PubMed:19458006, PubMed:20335265). May inhibit the mobility of LTR and non-LTR retrotransposons (PubMed:16527742).
Cellular Location	Cytoplasm. Nucleus Cytoplasm, P-body. Note=Mainly cytoplasmic (PubMed:16527742, PubMed:16699599, PubMed:21835787). Small amount are found in the nucleus (PubMed:18667511). During HIV-1 infection, virion-encapsidated in absence of HIV-1 Vif (PubMed:12859895)
Tissue Location	Expressed in spleen, testes, ovary and peripheral blood leukocytes and CD4+ lymphocytes. Also expressed in non-permissive peripheral blood mononuclear cells, and several tumor cell lines; no expression detected in permissive lymphoid and non-lymphoid cell lines Exists only in the LMM form in peripheral blood-derived resting CD4 T- cells and monocytes, both of which are refractory to HIV-1 infection LMM is converted to a HMM complex when resting CD4 T-cells are activated or when monocytes are induced to differentiate into macrophages. This change correlates with increased

susceptibility of these cells to HIV-1 infection.

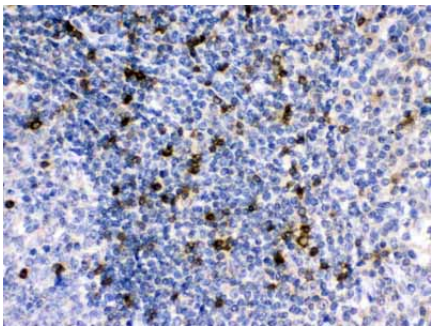
Background

APOBEC3G (apolipoprotein B mRNA editing enzyme, catalytic polypeptide-like 3G) is a human enzyme encoded by the APOBEC3G gene. This gene is a member of the cytidine deaminase gene family. It is one of seven related genes or pseudogenes found in a cluster, thought to result from gene duplication, on chromosome 22. Members of the cluster encode proteins that are structurally and functionally related to the C to U RNA-editing cytidine deaminase APOBEC1. It is thought that the proteins may be RNA editing enzymes and have roles in growth or cell cycle control. The protein encoded by this gene has been found to be a specific inhibitor of human immunodeficiency virus-1 (HIV-1) infectivity.

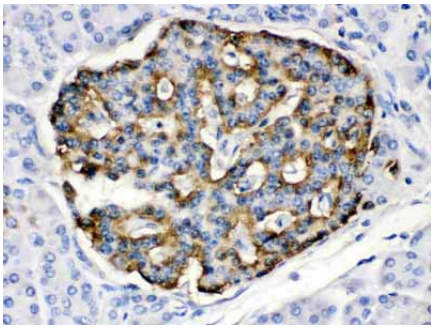
Images



Western blot analysis of APOBEC3G expression in A431 whole cell lysates (lane 1), and JURKAT whole cell lysates (lane 2). APOBEC3G at 46KD was detected using rabbit anti- APOBEC3G Antigen Affinity purified polyclonal antibody (Catalog # ABO12670) at 0.5 □¼g/mL. The blot was developed using chemiluminescence (ECL) method .



APOBEC3G was detected in paraffin-embedded sections of human tonsil tissues using rabbit anti- APOBEC3G Antigen Affinity purified polyclonal antibody (Catalog # ABO12670) at 1 □¼g/mL. The immunohistochemical section was developed using SABC method .



APOBEC3G was detected in paraffin-embedded sections of human pancreatic cancer tissues using rabbit anti- APOBEC3G Antigen Affinity purified polyclonal antibody (Catalog # ABO12670) at 1 ??g/mL. The immunohistochemical section was developed using SABC method .

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