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APOBEC3G (CEM15) Antibody (Center E133)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1351b

Specification

APOBEC3G (CEM15) Antibody (Center E133) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	Q9HC16
Reactivity	**Human**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**46408**
Antigen Region	**118-148**

APOBEC3G (CEM15) Antibody (Center E133) - Additional Information

Gene ID 60489

Other Names
DNA dC->dU-editing enzyme APOBEC-3G, 354-, APOBEC-related cytidine deaminase, APOBEC-related protein, ARCD, APOBEC-related protein 9, ARP-9, CEM-15, CEM15, Deoxycytidine deaminase, A3G, APOBEC3G

Target/Specificity
This APOBEC3G (CEM15) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 118-148 amino acids from the Central region of human APOBEC3G (CEM15).

Dilution
WB~~1:1000
IHC-P~~1:50~100

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
APOBEC3G (CEM15) Antibody (Center E133) is for research use only and not for use in diagnostic or therapeutic procedures.

APOBEC3G (CEM15) Antibody (Center E133) - 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.

APOBEC3G (CEM15) Antibody (Center E133) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

APOBEC3G (CEM15) Antibody (Center E133) - Images

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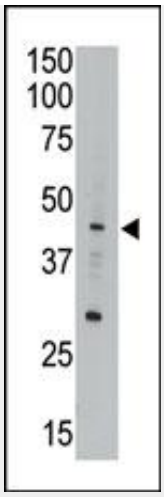
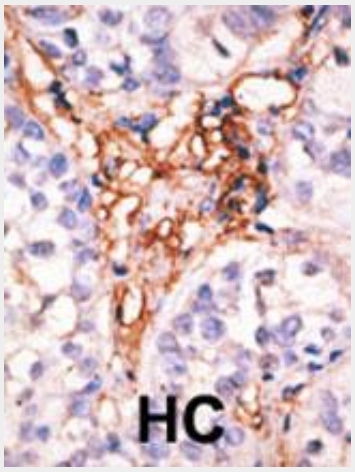


The anti-CEM15 Pab (Cat. #AP1351b) is used in Western blot to detect CEM15 in A549 cell lysate.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

APOBEC3G (CEM15) Antibody (Center E133) - Background

CEM15 is a member of the cytidine deaminase family. It is the product of 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. CEM15 has been found to be a specific inhibitor of human immunodeficiency virus-1 (HIV-1) infectivity.

APOBEC3G (CEM15) Antibody (Center E133) - References

Kao, S., et al., J. Virol. 77(21):11398-11407 (2003).
Stopak, K., et al., Mol. Cell 12(3):591-601 (2003).
Mangeat, B., et al., Nature 424(6944):99-103 (2003).
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Wedekind, J.E., et al., Trends Genet. 19(4):207-216 (2003).