

AID Antibody

Catalog # ASC10184

Product Information

Application	WB, IF, ICC, E
Primary Accession	Q9GZX7
Other Accession	AAM95402 , 22297218
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	23954
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	AID antibody can be used for detection of AID by Western blot at 2 μ g/mL. Anti-AID is human and mouse reactive. Antibody can also be used for immunocytochemistry starting at 10 μ g/mL. For immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	57379
Other Names	AID Antibody: AID, ARP2, CDA2, HIGM2, HEL-S-284, AID, Single-stranded DNA cytosine deaminase, Activation-induced cytidine deaminase, activation-induced cytidine deaminase
Target/Specificity	AICDA;
Reconstitution & Storage	AID antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	AID Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	AICDA
Synonyms	AID
Function	Single-stranded DNA-specific cytidine deaminase. Involved in somatic hypermutation (SHM), gene conversion, and class-switch recombination (CSR) in B-lymphocytes by deaminating C to U during transcription of Ig-variable (V) and Ig-switch (S) region DNA. Required for several crucial steps of B-cell terminal differentiation necessary for efficient antibody responses

(PubMed:[18722174](#), PubMed:[21385873](#), PubMed:[21518874](#), PubMed:[27716525](#)). May also play a role in the epigenetic regulation of gene expression by participating in DNA demethylation (PubMed:[21496894](#)).

Cellular Location

Nucleus. Cytoplasm, cytosol Note=Predominantly cytosolic (PubMed:21385873). In the presence of MCM3AP/GANP, relocalizes to the nucleus (By similarity) {ECO:0000250 | UniProtKB:Q9WVE0, ECO:0000269 | PubMed:21385873}

Tissue Location

Strongly expressed in lymph nodes and tonsils.

Background

AID Antibody: Activation-induced cytidine deaminase (AID) was initially discovered as a homolog of the apolipoprotein B RNA-editing cytidine deaminase 1 (APOBEC1) that showed cytidine deaminase properties in stimulated B cell lines. It is necessary for somatic hypermutation and class switch recombination in B cells, but inappropriate or dysregulated expression AID is often found in tumors and B cell neoplasms. Although it is structurally and functionally similar to the APOBEC proteins, it appears unlikely that AID deaminates dC to dU residues in HIV cDNA as does APOBEC3G.

References

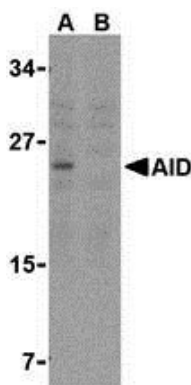
Muramatsu M, Sankaranand VS, Anant S, et al. Specific expression of activation-induced cytidine deaminase (AID), a novel member of the RNA-editing deaminase family in germinal center B cells. *J. Biol. Chem.* 1999; 274:18470-6.

Muramatsu M, Kinoshita K, Fagarasan S, et al. Class switch recombination and hypermutation require activation-induced cytidine deaminase (AID), a potential RNA editing enzyme. *Cell* 2000; 102:553-63.

Greeve J, Philipsen A, Krause K, et al. Expression of activation-induced cytidine deaminase in human B-cell Hodgkin lymphomas. *Blood* 2003; 101:3574-80.

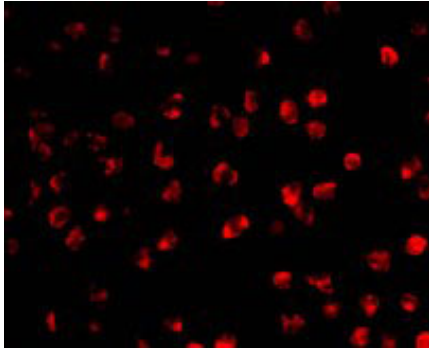
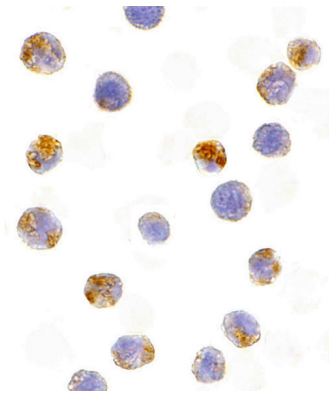
Cascalho M. Advantages and disadvantages of cytidine deamination. *J. Immunol.* 2004; 172:6513-8.

Images



Western blot analysis of AID in Ramos whole cell lysate with AID antibody at 2 µg/mL in either the (A) absence or (B) presence of blocking peptide.

Immunocytochemistry of AID in Ramos cells with Ramos antibody at 10 µg/mL.



Immunofluorescence of AID in Ramos cells with AID antibody at 20 $\mu\text{g/mL}$.

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