

AID (C-20): sc-14680

BACKGROUND

Activation-induced Cytidine Deaminase (AID, HIGM-2) is a 198-amino acid, RNA-editing enzyme that contains a conserved cytidine deaminase motif and plays an important role in B-cell terminal differentiation. AID is expressed in germinal center B cells and contributes to the production of neutralizing antibodies IgG, IgA, and IgE. Hyper-IgM syndrome (HIGM2) patients that have deficient levels of AID show the absence of immuno-globulin class switch recombination (CSR), lack of immuno-globulin somatic hypermutations, and lymph node hyperplasia mediated by the presence of giant germinal centers. Furthermore, AID^{-/-} mice are defective in CSR and also show a hyper-IgM phenotype, characterized by enlarged germinal centers containing active B cells. AID thus appears to be required in several stages of B-cell terminal differentiation that are necessary for efficient antibody responses such as B cell proliferation, immunoglobulin somatic hypermutations and CSR.

CHROMOSOMAL LOCATION

Genetic locus: AICDA (human) mapping to 12p13.31; Aicda (mouse) mapping to 6 F1.

SOURCE

AID (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of AID of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14680 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AID (C-20) is recommended for detection of AID of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AID (C-20) is also recommended for detection of AID in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for AID siRNA (h): sc-42729, AID siRNA (m): sc-42730, AID shRNA Plasmid (h): sc-42729-SH, AID shRNA Plasmid (m): sc-42730-SH, AID shRNA (h) Lentiviral Particles: sc-42729-V and AID shRNA (m) Lentiviral Particles: sc-42730-V.

Molecular Weight of AID: 24 kDa.

Positive Controls: Daudi cell lysate: sc-2415, Hep G2 cell lysate: sc-2227 or Ramos cell lysate: sc-2216.

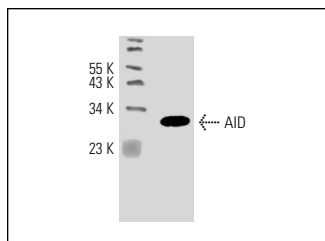
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



AID (C-20): sc-14680. Western blot analysis of AID expression in Daudi whole cell lysate.

SELECT PRODUCT CITATIONS

1. Oppezzo, P., et al. 2005. Different isoforms of BSAP regulate expression of AID in normal and chronic lymphocytic leukemia B cells. *Blood* 105: 2495-2503.
2. Kolar, G.R., et al. 2007. A novel human B cell subpopulation representing the initial germinal center population to express AID. *Blood* 109: 2545-2552.
3. Ukai, A., et al. 2008. Induction of a:T mutations is dependent on cellular environment but independent of mutation frequency and target gene location. *J. Immunol.* 181: 7835-7842.
4. He, B., et al. 2010. The transmembrane activator TACI triggers immunoglobulin class switching by activating B cells through the adaptor MyD88. *Nat. Immunol.* 11: 836-845.
5. Borchert, G.M., et al. 2010. Histone H2A and H2B are monoubiquitinated at AID-targeted loci. *PLoS ONE* 5: e11641.

PROTOCOLS

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Try **AID (2D3): sc-101417**, our highly recommended monoclonal alternative to AID (C-20).