

# AID (A-15): sc-22912

## 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<sup>-/-</sup> 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.

## REFERENCES

1. Muramatsu, M., et al. 1999. 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.* 274: 18470-18476.
2. Revy, P., et al. 2000. Activation-induced cytidine deaminase (AID) deficiency causes the autosomal recessive form of the Hyper-IgM syndrome (HIGM2). *Cell* 102: 565-575.
3. Muto, T., et al. 2000. Isolation, tissue distribution, and chromosomal localization of the human activation-induced cytidine deaminase (AID) gene. *Genomics* 68: 85-88.
4. Minegishi, Y., et al. 2000. Mutations in activation-induced cytidine deaminase in patients with hyper IgM syndrome. *Clin. Immunol.* 97: 203-210.
5. Muramatsu, M., et al. 2000. Class switch recombination and hypermutation require activation-induced cytidine deaminase (AID), a potential RNA editing enzyme. *Cell* 102: 553-563.

## CHROMOSOMAL LOCATION

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

## SOURCE

AID (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region 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-22912 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

AID (A-15) 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), 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 (A-15) 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.

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

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

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Try **AID (2D3): sc-101417**, our highly recommended monoclonal alternative to AID (A-15).