

# ADAT1 (C-5): sc-271812

## BACKGROUND

Editing of RNA alters the nucleotide sequence of a transcript to produce codon changes, which can result in alternative translation patterns from a single pre-mRNA. One type of RNA editing involves tRNA-specific Adenosine deaminase, ADAT1, which is responsible for the first step in the processing of eukaryotic tRNA<sup>Ala</sup> transcripts that undergo specific Adenosine to inosine modifications. Additionally, members of the double-stranded RNA (dsRNA) Adenosine deaminase family of enzymes, ADAR1 and ADAR2, act on double-stranded regions of RNA. dsRNA structures are formed by base pairing of an exonic sequence around the editing site with a complementary sequence in the downstream intron. ADAR family member-mediated editing occurs in the nucleus before splicing removes the respective intron. These enzymes all facilitate the deamination of Adenosine to generate inosine, which is then translated as guanosine. ADAR1, ADAR2 and a related brain-specific ADAR family member, RED2, contain a central series of double-stranded RNA-binding motifs and a C-terminal catalytic domain. ADAR1 also contains a novel Zn-DNA binding domain at the N-terminal region, and when bound to Z-DNA-ADAR1 is substantially less susceptible to proteolytic degradation.

## REFERENCES

1. Maas, S., et al. 1996. Structural requirements for RNA editing in glutamate receptor pre-mRNAs by recombinant double-stranded RNA Adenosine deaminase. *J. Biol. Chem.* 271: 12221-12226.
2. Melcher, T., et al. 1996. RED2, a brain-specific member of the RNA-specific adenosine deaminase family. *J. Biol. Chem.* 271: 31795-31798.

## CHROMOSOMAL LOCATION

Genetic locus: ADAT1 (human) mapping to 16q23.1; Adat1 (mouse) mapping to 8 E1.

## SOURCE

ADAT1 (C-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 13-37 near the N-terminus of ADAT1 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

ADAT1 (C-5) is available conjugated to agarose (sc-271812 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271812 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271812 PE), fluorescein (sc-271812 FITC), Alexa Fluor<sup>®</sup> 488 (sc-271812 AF488), Alexa Fluor<sup>®</sup> 546 (sc-271812 AF546), Alexa Fluor<sup>®</sup> 594 (sc-271812 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-271812 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-271812 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-271812 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271812 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

ADAT1 (C-5) is recommended for detection of ADAT1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for ADAT1 siRNA (h): sc-37661, ADAT1 siRNA (m): sc-37662, ADAT1 shRNA Plasmid (h): sc-37661-SH, ADAT1 shRNA Plasmid (m): sc-37662-SH, ADAT1 shRNA (h) Lentiviral Particles: sc-37661-V and ADAT1 shRNA (m) Lentiviral Particles: sc-37662-V.

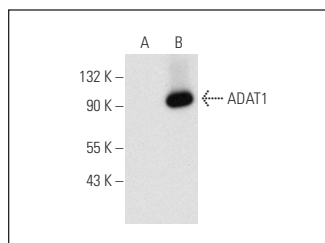
Molecular Weight of ADAT1 isoforms: 55/39 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or ADAT1 (h): 293T Lysate: sc-171272.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



ADAT1 (C-5): sc-271812. Western blot analysis of ADAT1 expression in non-transfected: sc-117752 (A) and human ADAT1 transfected: sc-171272 (B) 293T whole cell lysates.

## 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.

## PROTOCOLS

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