

# ADAT3 (E-14): sc-131096

## 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. ADAT2 (tRNA-specific adenosine deaminase 2), also known as deaminase domain-containing protein 1, and ADAT3 (tRNA-specific adenosine deaminase-like protein 3) are also thought to participate in the deamination of adenosine-34 to inosine in many tRNAs. Belonging to the cytidine and deoxycytidylate deaminase protein family, ADAT2 and ADAT3 both employ zinc as a cofactor. ADAT2 is a 191 amino acid protein that exists as 2 isoforms produced by alternative splicing events. ADAT3 is a 351 amino acid protein that is phosphorylated upon DNA damage, possibly by Atm or ATR.

## 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.
3. Rueter, S.M., et al. 1999. Regulation of alternative splicing by RNA editing. *Nature* 399: 75-80.
4. Maas, S., et al. 1999. Identification and characterization of a human tRNA-specific adenosine deaminase related to the ADAR family of pre-mRNA editing enzymes. *Proc. Natl. Acad. Sci. USA* 96: 8895-8900.

## CHROMOSOMAL LOCATION

Genetic locus: ADAT3 (human) mapping to 19p13.3; Adat3 (mouse) mapping to 10 C1.

## SOURCE

ADAT3 (E-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ADAT3 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-131096 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.

## PROTOCOLS

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

## APPLICATIONS

ADAT3 (E-14) is recommended for detection of ADAT3 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); non cross-reactive with ADAT1 or ADAT2.

ADAT3 (E-14) is also recommended for detection of ADAT3 in additional species, including canine and porcine.

Suitable for use as control antibody for ADAT3 siRNA (h): sc-97606, Adat3 siRNA (m): sc-140873, ADAT3 shRNA Plasmid (h): sc-97606-SH, Adat3 shRNA Plasmid (m): sc-140873-SH, ADAT3 shRNA (h) Lentiviral Particles: sc-97606-V and Adat3 shRNA (m) Lentiviral Particles: sc-140873-V.

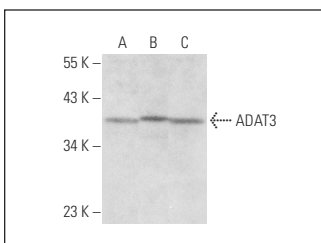
Molecular Weight of ADAT3: 38 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, A2058 whole cell lysate: sc-364178 or K-562 whole cell lysate: sc-2203.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



ADAT3 (E-14): sc-131096. Western blot analysis of ADAT3 expression in Jurkat (A), A2058 (B) and K-562 (C) whole cell lysates.

## RESEARCH USE

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