SANTA CRUZ BIOTECHNOLOGY, INC.

ADAT3 (P-13): sc-131097

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 tRNAAla 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 two 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 (P-13) 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-131097 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 or our catalog for detailed protocols and support products.

APPLICATIONS

ADAT3 (P-13) 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.

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.

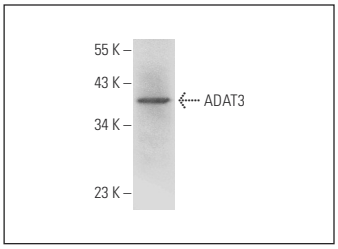
Molecular Weight of ADAT3: 38 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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 (P-13): sc-131097. Western blot analysis of ADAT3 expression in Hep G2 whole cell lysate.

RESEARCH USE

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