SANTA CRUZ BIOTECHNOLOGY, INC.

ADAT2 (E-12): sc-107386

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, is 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 employs zinc as a cofactor. ADAT2 is a 191 amino acid protein that exists as two isoforms produced by alternative splicing events.

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.
5. Keller, W., et al. 1999. Editing of messenger RNA precursors and of tRNAs by adenosine to inosine conversion. FEBS Lett. 452: 71-76.
6. Schaub, M. and Keller, W. 2002. RNA editing by adenosine deaminases generates RNA and protein diversity. Biochimie 84: 791-803.
7. Kimura, K., et al. 2006. Diversification of transcriptional modulation: large-scale identification and characterization of putative alternative promoters of human genes. Genome Res. 16: 55-65.

CHROMOSOMAL LOCATION

Genetic locus: ADAT2 (human) mapping to 6q24.2; Adat2 (mouse) mapping to 10 A2.

SOURCE

ADAT2 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ADAT2 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-107386 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

ADAT2 (E-12) is recommended for detection of ADAT2 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); non cross-reactive with family members ADAT1 or ADAT3.

ADAT2 (E-12) is also recommended for detection of ADAT2 in additional species, including avian.

Suitable for use as control antibody for ADAT2 siRNA (h): sc-95530, ADAT2 siRNA (m): sc-140872, ADAT2 shRNA Plasmid (h): sc-95530-SH, ADAT2 shRNA Plasmid (m): sc-140872-SH, ADAT2 shRNA (h) Lentiviral Particles: sc-95530-V and ADAT2 shRNA (m) Lentiviral Particles: sc-140872-V.

Molecular Weight of ADAT2: 21 kDa.

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.

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.