SANTA CRUZ BIOTECHNOLOGY, INC.

ADAR3 (T-19): sc-10014

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. 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 faciliate the deamination of adenosine to generate inosine, which is then translated as guanosine. ADAR1, ADAR2 and a related brain-specific ADAR family member, ADAR3, contain a central series of double-stranded RNA-binding motifs and a C-terminal catalytic domain. ADAR1 also contains a novel Zα-DNA binding domain at the N-terminal region, and when bound to Z-DNA-ADAR1 is substantially less susceptible to proteolytic degradation.

REFERENCES

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4. Maas, S., Gerber, A.P., and Rich, A. 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. Schade, M., Turner, C.J., Kuhne, R., Schmieder, P., Lowenhaupt, K., Herbert, A., Rich, A., and Oschkinat, H. 1999. The solution structure of the Zα domain of the human RNA editing enzyme ADAR1 reveals a prepositioned binding surface for Z-DNA. Proc. Natl. Acad. Sci. USA 96: 12465-12470.
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CHROMOSOMAL LOCATION

Genetic locus: ADARB2 (human) mapping to 10p15.3; Adarb2 (mouse) mapping to 13 A1.

RESEARCH USE

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

SOURCE

ADAR3 (T-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ADAR3 of rat 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-10014 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ADAR3 (T-19) is recommended for detection of ADAR3 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).

Suitable for use as control antibody for ADAR3 siRNA (h): sc-37663, ADAR3 siRNA (m): sc-37664, ADAR3 shRNA Plasmid (h): sc-37663-SH, ADAR3 shRNA Plasmid (m): sc-37664-SH, ADAR3 shRNA (h) Lentiviral Particles: sc-37663-V and ADAR3 shRNA (m) Lentiviral Particles: sc-37664-V.

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.