SANTA CRUZ BIOTECHNOLOGY, INC.

ADAR2 (L-15): sc-10011

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The Power to Question

BACKGROUND

ADAR2, also designated adenosine deaminase, RNA-specific (RED1), RNA-editing enzyme 1, DRABA2, DRADA2, ADAR2α-L1, ADAR2α-L2 and ADAR2α-L3, mediates RNA editing by destabilizing RNA through deamination of adenosine to inosine. ADAR2 is responsible for pre-mRNA editing of the glutamate receptor subunit B by site-specific deamination of adenosines. It can modify its own pre-mRNA and generate new splice sites. Translocation of endogenous ADAR2 from the nucleolus to the nucleoplasm results in increased editing of endogenous ADAR2 substrates. Alternative splicing of this gene results in several transcript variants that may influence RNA editing. RNA editing involves the deamination of adenosines at specific sites, the result of which can be a change in the amino acid sequence of the protein so that it differs from that predicted by the sequence of the DNA.

REFERENCES

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3. Kallman, A.M., et al. 2003. ADAR2 A→I editing: site selectivity and editing efficiency are separate events. Nucleic Acids Res. 31: 4874-4881.
4. Sansam, C.L., et al. 2003. Modulation of RNA editing by functional nucleolar sequestration of ADAR2. Proc. Natl. Acad. Sci. USA 100: 14018-14023.
5. Dawson, T.R., et al. 2004. Structure and sequence determinants required for the RNA editing of ADAR2 substrates. J. Biol. Chem. 279: 4941-4951.
6. Vitali, P., et al. 2005. ADAR2-mediated editing of RNA substrates in the nucleolus is inhibited by C/D small nucleolar RNAs. J. Cell Biol. 169: 745-753.
7. Macbeth, M.R., et al. 2005. Inositol hexakisphosphate is bound in the ADAR2 core and required for RNA editing. Science 309: 1534-1539.
8. Feng, Y., et al. 2006. Altered RNA editing in mice lacking ADAR2 autoregulation. Mol. Cell. Biol. 26: 480-488.

CHROMOSOMAL LOCATION

Genetic locus: ADARB1 (human) mapping to 21q22.3; Adarb1 (mouse) mapping to 10 C1.

SOURCE

ADAR2 (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of ADAR2 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-10011 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ADAR2 (L-15) is recommended for detection of ADAR2 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).

ADAR2 (L-15) is also recommended for detection of ADAR2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ADAR2 siRNA (h): sc-37659, ADAR2 siRNA (m): sc-37660, ADAR2 shRNA Plasmid (h): sc-37659-SH, ADAR2 shRNA Plasmid (m): sc-37660-SH, ADAR2 shRNA (h) Lentiviral Particles: sc-37659-V and ADAR2 shRNA (m) Lentiviral Particles: sc-37660-V.

Molecular Weight of ADAR2 monomer: 90 kDa.

Molecular Weight of ADAR2 homodimer: 180 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.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.