SANTA CRUZ BIOTECHNOLOGY, INC.

ADAR2 (h): 293T Lysate: sc-117039

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

1. Higuchi, M., et al. 2000. Point mutation in an AMPA receptor gene rescues lethality in mice deficient in the RNA-editing enzyme ADAR2. Nature 406: 78-81.
2. Wong, S.K., et al. 2001. Substrate recognition by ADAR1 and ADAR2. RNA 7: 846-858.
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.

PRODUCT

ADAR2 (h): 293T Lysate represents a lysate of human ADAR2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

ADAR2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive ADAR2 antibodies. Recommended use: 10-20 µl per lane.

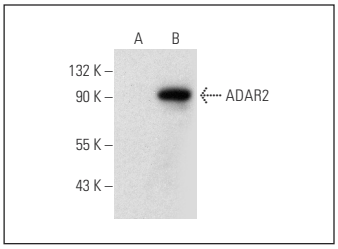
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

ADAR2 (C-2): sc-398122 is recommended as a positive control antibody for Western Blot analysis of enhanced human ADAR2 expression in ADAR2 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

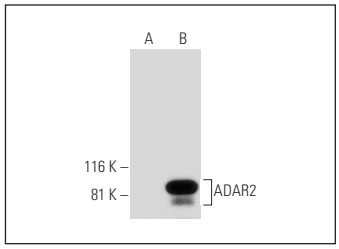
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



ADAR2 (C-2): sc-398122. Western blot analysis of ADAR2 expression in non-transfected: sc-117752 (**A**) and human ADAR2 transfected: sc-117039 (**B**) 293T whole cell lysates.



ADAR2 (A-5): sc-393272. Western blot analysis of ADAR2 expression in non-transfected: sc-117752 (**A**) and human ADAR2 transfected: sc-117039 (**B**) 293T whole cell lysates.

RESEARCH USE

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