

ADAT2 (h3): 293T Lysate: sc-176796

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 tRNA^{Ala} 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., Melcher, T., Herb, A., Seeburg, P.H., Keller, W., Krause, S., Higuchi, M. and O'Connell, M.A. 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., Maas, S., Herb, A., Sprengel, R., Higuchi, M. and Seeburg, P.H. 1996. RED2, a brain-specific member of the RNA-specific adenosine deaminase family. *J. Biol. Chem.* 271: 31795-31798.
3. Rueter, S.M., Dawson, T.R. and Emeson, R.B. 1999. Regulation of alternative splicing by RNA editing. *Nature* 399: 75-80.
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. Keller, W., Wolf, J. and Gerber, A. 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., Wakamatsu, A., Suzuki, Y., Ota, T., Nishikawa, T., Yamashita, R., Yamamoto, J., Sekine, M., Tsuritani, K., Wakaguri, H., Ishii, S., Sugiyama, T., Saito, K., Isono, Y., Irie, R., Kushida, N., Yoneyama, T., 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.

PRODUCT

ADAT2 (h3): 293T Lysate represents a lysate of human ADAT2 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.

APPLICATIONS

ADAT2 (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive ADAT2 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.

RESEARCH USE

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

PROTOCOLS

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