SANTA CRUZ BIOTECHNOLOGY, INC.

# ADAL siRNA (m): sc-140852

## BACKGROUND

ADAL (adenosine deaminase-like) is a 355 amino acid protein belonging to the adenosine and AMP deaminases family. Encoded by a gene that maps to human chromosome 15q15.3, ADAL exists as two alternatively spliced isoforms and may share the same catalytic function as adenosine deaminase. ADAL operates as a hydrolase and participates in adenosine deaminase activities, nucleotide metabolism and purine ribonucleoside monophosphate biosynthetic processes. ADAL is down-regulated in RNA in the presence of human T-cell leukemia virus type 1 (HTLV-I) p30. ADAL homologs exist for insects, vertebrates and most fungi, but not in prokaryotes, suggesting ADAL was acquired on the lineage leading to extant eukaryotes.

## REFERENCES


1. Riazi, M.A., Brinkman-Mills, P., Nguyen, T., Pan, H., Phan, S., Ying, F., Roe, B.A., Tochigi, J., Shimizu, Y., Minoshima, S., Shimizu, N., Buchwald, M. and McDermid, H.E. 2000. The human homolog of insect-derived growth factor, CECR1, is a candidate gene for features of cat eye syndrome. Genomics 64: 277-285.
2. Charlab, R., Valenzuela, J.G., Andersen, J. and Ribeiro, J.M. 2001. The invertebrate growth factor/CECR1 subfamily of adenosine deaminase proteins. Gene 267: 13-22.
3. Maier, S.A., Galellis, J.R. and McDermid, H.E. 2005. Phylogenetic analysis reveals a novel protein family closely related to adenosine deaminase. J. Mol. Evol. 61: 776-794.
4. Rosemberg, D.B., Rico, E.P., Guidoti, M.R., Dias, R.D., Souza, D.O., Bonan, C.D. and Bogo, M.R. 2007. Adenosine deaminase-related genes: molecular identification, tissue expression pattern and truncated alternative splice isoform in adult zebrafish *(Danio rerio)*. Life Sci. 81: 1526-1534.
5. Rosemberg, D.B., Rico, E.P., Senger, M.R., Dias, R.D., Bogo, M.R., Bonan, C.D. and Souza, D.O. 2008. Kinetic characterization of adenosine deaminase activity in zebrafish *(Danio rerio)* brain. Comp. Biochem. Physiol. B, Biochem. Mol. Biol. 151: 96-101.
6. Taylor, J.M., Ghorbel, S. and Nicot, C. 2009. Genome wide analysis of human genes transcriptionally and post-transcriptionally regulated by the HTLV-I protein p30. BMC Genomics 10: 311.
7. SWISS-PROT/TrEMBL (Q6DHV7). World Wide Web URL: http://www.uniprot.org/uniprot/Q6DHV7


## CHROMOSOMAL LOCATION

Genetic locus: Adal (mouse) mapping to 2 E5.

## 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.

## PRODUCT

ADAL siRNA (m) is a pool of 2 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ADAL shRNA Plasmid (m): sc-140852-SH and ADAL shRNA (m) Lentiviral Particles: sc-140852-V as alternate gene silencing products.

For independent verification of ADAL (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-140852A and sc-140852B.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ADAL siRNA (m) is recommended for the inhibition of ADAL expression in mouse cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ADAL gene expression knockdown using RT-PCR Primer: ADAL (m)-PR: sc-140852-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.