SANTA CRUZ BIOTECHNOLOGY, INC.

# Amd2 siRNA (m): sc-141040

## BACKGROUND

Amd2 (S-adenosylmethionine decarboxylase 2), also known as Amd1, Amd3 or AdoMetDC, is a 334 amino acid widely expressed protein belonging to the eukaryotic AdoMetDC family. Existing as a heterotetramer with two $\alpha$ and two $\beta$ chains, Amd2 is a key enzyme in polyamine biosynthesis. Initially synthesized as an inactive proenzyme, the formation of active Amd2 involves a self-maturation process in which the active site pyruvoyl group is generated from an internal serine residue via an autocatalytic post-translational modification. The post translational cleavage of Amd2 follows an unusual pathway, termed non-hydrolytic serinolysis, in which the side chain hydroxyl group of the serine supplies its oxygen atom to form the C-terminus of the $\beta$ chain, while the remainder of the serine residue undergoes an oxidative deamination to produce ammonia and the pyruvoyl group blocking the N-terminus of the $\alpha$ chain. Amd2 is encoded by a gene located on mouse chromosome 10 B1.

## REFERENCES


1. Online Mendelian Inheritance in Man, OMIM™. 1986. Johns Hopkins University, Baltimore, MD. MIM Number: 180980. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Radford, D.M., et al. 1988. Gene sequences coding for S-adenosylmethionine decarboxylase are present on human chromosome 6 and the X and are not amplified in colon neoplasia. Cytogenet. Cell Genet. 49: 285-288.
3. Maric, S.C., et al. 1995. The human S-adenosylmethionine decarboxylase gene: nucleotide sequence of a pseudogene and chromosomal localization of the active gene (AMD1) and the pseudogene (AMD2). Cytogenet. Cell Genet. 70: 195-199.
4. Nishimura, K., et al. 1998. Structure and activity of mouse S-adenosylmethionine decarboxylase gene promoters and properties of the encoded proteins. Biochem. J. 332: 651-659.
5. Oishi, H., et al. 2005. Accelerating effect of an MRL gene locus on the severity and onset of arthropathy in DBA/1 mice. Arthritis Rheum. 52: 959-966.
6. Hu, W.W., et al. 2005. The pivotal roles of the plant S-adenosylmethionine decarboxylase 5' untranslated leader sequence in regulation of gene expression at the transcriptional and posttranscriptional levels. Plant Physiol. 138: 276-286.
7. Jumtee, K., et al. 2008. Integrated metabolite and gene expression profiling revealing phytochrome A regulation of polyamine biosynthesis of *Arabidopsis thaliana*. J. Exp. Bot. 59: 1187-1200.


## CHROMOSOMAL LOCATION

Genetic locus: Amd2 (mouse) mapping to 10 B1.

## PRODUCT

Amd2 siRNA (m) is a target-specific 19-25 nt siRNA 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 Amd2 shRNA Plasmid (m): sc-141040-SH and Amd2 shRNA (m) Lentiviral Particles: sc-141040-V as alternate gene silencing products.

## 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

Amd2 siRNA (m) is recommended for the inhibition of Amd2 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 Amd2 gene expression knockdown using RT-PCR Primer: Amd2 (m)-PR: sc-141040-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## 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.