SANTA CRUZ BIOTECHNOLOGY, INC.

AMZ1 siRNA (m): sc-141056

BACKGROUND

AMZ1 (archaelysin family metallopeptidase 1), also known as archaemetzincin-1 or archeobacterial metalloproteinase-like protein 1, is a 498 amino acid protein belonging to the peptidase M54 family. Encoded by a gene that maps to human chromosome 7p22.2, AMZ1 is conserved in chimpanzee, dog, cow, mouse, rat and chicken. Predominantly expressed in heart and liver, AMZ1 is also expressed in kidney, pancreas and testis, and in fetal tissues such as kidney, liver, lung and brain. AMZ1 participates in metal ion binding and functions as a zinc metalloprotease. AMZ1 is inhibited by both general metalloprotease inhibitors o-phenanthroline and batimastat. Exhibiting aminopeptidase activity, AMZ1 acts against Neurogranin *in vitro,* but does not hydrolyze Angiotensin. AMZ1 is also significantly inhibited by Epiamastatin hydrochloride, an aminopeptidase inhibitor.

REFERENCES

1. Díaz-Perales, A., et al. 2005. Identification and characterization of human archaemetzincin-1 and -2, two novel members of a family of metalloproteases widely distributed in Archaea. J. Biol. Chem. 280: 30367-30375.
2. Higuchi, M.L., et al. 2006. A role for archaeal organisms in development of atherosclerotic vulnerable plaques and myxoid matrices. Clinics 61: 473-478.
3. Baron, U., et al. 2007. DNA demethylation in the human FOXP3 locus discriminates regulatory T cells from activated FOXP3^{+} conventional T cells. Eur. J. Immunol. 37: 2378-2389.
4. Swingler, T.E., et al. 2009. Degradome expression profiling in human articular cartilage. Arthritis Res. Ther. 11: R96.
5. Quesada, V., et al. 2009. The Degradome database: mammalian proteases and diseases of proteolysis. Nucleic Acids Res. 37: D239-D243.
6. Waltersperger, S., et al. 2010. Crystal structure of archaemetzincin amza from *Methanopyrus kandleri* at 1.5 A resolution. Proteins 78: 2720-2723.
7. SWISS-PROT/TrEMBL (Q400G9). World Wide Web URL: http://www.uniprot.org/uniprot/Q400G9

CHROMOSOMAL LOCATION

Genetic locus: Amz1 (mouse) mapping to 5 G2.

PRODUCT

AMZ1 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 AMZ1 shRNA Plasmid (m): sc-141056-SH and AMZ1 shRNA (m) Lentiviral Particles: sc-141056-V as alternate gene silencing products.

PROTOCOLS

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

AMZ1 siRNA (m) is recommended for the inhibition of AMZ1 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 AMZ1 gene expression knockdown using RT-PCR Primer: AMZ1 (m)-PR: sc-141056-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.