SANTA CRUZ BIOTECHNOLOGY, INC.

AMZ2 siRNA (h): sc-94228

BACKGROUND

AMZ2 (archaelysin family metallopeptidase 2), also known as archaemetzincin-2 or archeobacterial metalloproteinase-like protein 2, is a 360 amino acid protein belonging to the peptidase M54 family. Encoded by a gene that maps to human chromosome 17q24.2, AMZ2 is predominantly expressed in heart and testis. AMZ2 is also expressed in kidney, liver, pancreas, lung, brain and placenta, and in fetal tissues such as kidney, liver, lung and brain. AMZ2 participates in metal ion binding and functions as a zinc metalloprotease. AMZ2 is inhibited by both general metalloprotease inhibitors o-phenanthroline and batimastat. Exhibiting aminopeptidase activity, AMZ2 acts against Angiotensin *in vitro,* but does not hydrolyze either Neurogranin or Angiotensin. AMZ2 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. Peñalver-Mellado, M., et al. 2006. Recruitment of a novel zinc-bound transcriptional factor by a bacterial HMGA-type protein is required for regulating multiple processes in *Myxococcus xanthus.* Mol. Microbiol. 61: 910-926.
4. Quesada, V., et al. 2009. The degradome database: mammalian proteases and diseases of proteolysis. Nucleic Acids Res. 37: D239-D243.
5. Elías-Arnanz, M., et al. 2010. The regulatory action of the myxobacterial CarD/CarG complex: a bacterial enhanceosome? FEMS Microbiol. Rev. 34: 764-778.
6. Waltersperger, S., et al. 2010. Crystal structure of archaemetzincin amza from *Methanopyrus kandleri* at 1.5 A resolution. Proteins 78: 2720-2723.

CHROMOSOMAL LOCATION

Genetic locus: AMZ2 (human) mapping to 17q24.2.

PRODUCT

AMZ2 siRNA (h) is a pool of 3 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 AMZ2 shRNA Plasmid (h): sc-94228-SH and AMZ2 shRNA (h) Lentiviral Particles: sc-94228-V as alternate gene silencing products.

For independent verification of AMZ2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-94228A, sc-94228B and sc-94228C.

RESEARCH USE

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

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

AMZ2 siRNA (h) is recommended for the inhibition of AMZ2 expression in human 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.

GENE EXPRESSION MONITORING

AMZ2 (E-4): sc-365345 is recommended as a control antibody for monitoring of AMZ2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor AMZ2 gene expression knockdown using RT-PCR Primer: AMZ2 (h)-PR: sc-94228-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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