



## AZ2 siRNA (m): sc-141420

### BACKGROUND

Members of the antizyme (AZ) family are proteins that negatively regulate cellular polyamine synthesis and uptake. Three members, AZ1, AZ2 and AZ3, have been characterized to date. AZ1 and AZ2 have a broad tissue distribution, while AZ3 is expressed exclusively in testis. AZ2 (antizyme 2), also known as OAZ2 (ornithine decarboxylase antizyme 2) or ODC-Az 2, is a 189 amino acid protein that binds to ornithine decarboxylase (ODC), inactivates it, and targets it for degradation. The human and mouse AZ2 protein sequences differ by only one amino acid. One named isoform of AZ2 is produced by ribosomal frameshifting, which occurs between the codons for Ser 32 and Asp 33. An autoregulatory mechanism enables modulation of frameshifting according to the cellular concentration of polyamines.

### REFERENCES

1. McCormack, A., et al. 1998. Cloning and expression of AZ2, a putative zinc finger transcription factor from *Drosophila melanogaster*. *Dev. Genes Evol.* 208: 172-174.
2. Ivanov, I.P., et al. 1998. A second mammalian antizyme: conservation of programmed ribosomal frameshifting. *Genomics* 52: 119-129.
3. Zhou, J., et al. 1999. Structure of human ornithine decarboxylase antizyme 2 gene. *Gene* 232: 165-171.
4. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604152. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Chen, H., et al. 2002. Structural elements of antizymes 1 and 2 are required for proteasomal degradation of ornithine decarboxylase. *J. Biol. Chem.* 277: 45957-45961.
6. Mangold, U. and Leberer, E. 2005. Regulation of all members of the antizyme family by antizyme inhibitor. *Biochem. J.* 385: 21-28.
7. Snapir, Z., et al. 2009. Antizyme 3 inhibits polyamine uptake and ornithine decarboxylase (ODC) activity, but does not stimulate ODC degradation. *Biochem. J.* 419: 99-103.
8. Murai, N., et al. 2009. Subcellular localization and phosphorylation of antizyme 2. *J. Cell. Biochem.* 108: 1012-1021.

### CHROMOSOMAL LOCATION

Genetic locus: Oaz2 (mouse) mapping to 9 C.

### PRODUCT

AZ2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see AZ2 shRNA Plasmid (m): sc-141420-SH and AZ2 shRNA (m) Lentiviral Particles: sc-141420-V as alternate gene silencing products.

### PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

### APPLICATIONS

AZ2 siRNA (m) is recommended for the inhibition of AZ2 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  $\mu$ M in 66  $\mu$ l. 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 AZ2 gene expression knockdown using RT-PCR Primer: AZ2 (m)-PR: sc-141420-PR (20  $\mu$ l). 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.