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# RNase 6 siRNA (m): sc-152992

## BACKGROUND

RNase 6 (ribonuclease K6) is a 150 amino acid ribonuclease that belongs to the pancreatic ribonuclease family, which itself is included in the RNase A superfamily. Gene products belonging to the Ribonuclease A superfamily are pancreatic ribonucleases that cleave single-stranded RNA. RNase 6 is a secreted protein that likely plays a role in host immunological defense. RNase 6 shows strong expression in lung, heart, placenta, kidney, pancreas, liver, brain and skeletal muscle. RNase 6 is also expressed in monocytes and neutrophils. The RNase 1 gene is conserved in chimpanzee, canine, bovine, mouse and rat, and maps to human chromosome 14q11.2, where it is linked to seven other RNase A superfamily genes. The entire RNase A cluster spans 368 kb.

## REFERENCES

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- Deming, M.S., Dyer, K.D., Bankier, A.T., Piper, M.B., Dear, P.H. and Rosenberg, H.F. 1998. Ribonuclease K6: chromosomal mapping and divergent rates of evolution within the RNase A gene superfamily. *Genome Res.* 8: 599-607.
- Domachowske, J.B., Dyer, K.D., Adams, A.G., Leto, T.L. and Rosenberg, H.F. 1998. Eosinophil cationic protein/RNase 3 is another RNase A-family ribonuclease with direct antiviral activity. *Nucleic Acids Res.* 26: 3358-3363.
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- Pietrowski, D. and Förster, M. 2000. Complete cDNA sequence and amino acid analysis of a bovine ribonuclease K6 gene. *DNA Seq.* 11: 365-371.
- Bai, X., Liang, Z., Zhao, S., Liu, X., Zhu, M., Wu, Z. and Yu, M. 2009. The porcine ANG, RNASE1 and RNASE6 genes: molecular cloning, polymorphism detection and the association with haematological parameters. *Mol. Biol. Rep.* 36: 2405-2411.

## CHROMOSOMAL LOCATION

Genetic locus: Rnase6 (mouse) mapping to 14 C1.

## PRODUCT

RNase 6 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 RNase 6 shRNA Plasmid (m): sc-152992-SH and RNase 6 shRNA (m) Lentiviral Particles: sc-152992-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  $\mu$ 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

RNase 6 siRNA (m) is recommended for the inhibition of RNase 6 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 RNase 6 gene expression knockdown using RT-PCR Primer: RNase 6 (m)-PR: sc-152992-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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.