

SerpinA9 siRNA (m): sc-105391

BACKGROUND

SerpinA9 (serpin peptidase inhibitor, clade A (α -1 antitrypsin, antitrypsin), member 9) is a 417 amino acid protein that belongs to the serpin family. A protease inhibitor that inhibits trypsin and trypsin-like serine proteases (*in vitro*), SerpinA9 inhibits plasmin and thrombin with lower efficiency (*in vitro*). The SerpinA9 protein is highly expressed in normal germinal center (GC) B-cells and GC B-cell-derived malignancies. In humans, SerpinA9 is part of a gene cluster, which spans over 370 kb on chromosome 14q32.13 and includes ten additional members of the Serpin superfamily. All Serpin genes have a significant sequence similarity and most share a common gene structure with one untranslated exon and four coding exons. Accordingly, it has been proposed that members of the Serpin superfamily evolved from a common ancestral gene through a series of duplication events. Existing as seven alternatively spliced isoforms, the SerpinA9 gene is conserved in chimpanzee, canine, mouse, rat and zebrafish, and maps to human chromosome 14q32.13.

REFERENCES

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4. Marsden, M.D. and Fournier, R.E. 2005. Organization and expression of the human serpin gene cluster at 14q32.1. *Front. Biosci.* 10: 1768-1778.
5. Seixas, S., Suriano, G., Carvalho, F., Seruca, R., Rocha, J. and Di Rienzo, A. 2007. Sequence diversity at the proximal 14q32.1 SERPIN subcluster: evidence for natural selection favoring the pseudogenization of SERPINA2. *Mol. Biol. Evol.* 24: 587-598.
6. Silverman, G.A., Whisstock, J.C., Bottomley, S.P., Huntington, J.A., Kaiserman, D., Luke, C.J., Pak, S.C., Reichart, J.M. and Bird, P.I. 2010. Serpins flex their muscle: I. Putting the clamps on proteolysis in diverse biological systems. *J. Biol. Chem.* 285: 24299-24305.

CHROMOSOMAL LOCATION

Genetic locus: Serpina9 (mouse) mapping to 12 E.

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.

PRODUCT

SerpinA9 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SerpinA9 shRNA Plasmid (m): sc-105391-SH and SerpinA9 shRNA (m) Lentiviral Particles: sc-105391-V as alternate gene silencing products.

For independent verification of SerpinA9 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-105391A, sc-105391B and sc-105391C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SerpinA9 siRNA (m) is recommended for the inhibition of SerpinA9 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 μ M in 66 μ 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 SerpinA9 gene expression knockdown using RT-PCR Primer: SerpinA9 (m)-PR: sc-105391-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.