

SerpinA3g siRNA (m): sc-153360

BACKGROUND

The serine proteinase inhibitors (serpins) compose a superfamily of proteins with a diverse set of functions, including the control of blood coagulation, complement activation, programmed cell death and development. Serpins are secreted glycoproteins that contain a stretch of peptide that mimics a true substrate for a corresponding serine protease. SerpinA3g has an unusual reactive site Cys-Cys sequence, a unique C-terminal extension, but no usual cleavable N-terminal signal sequence. It localizes to the nucleus and is expressed at high levels in haemopoietic progenitors, and is down-regulated upon differentiation. This serpin is also dramatically up-regulated on T-cell activation as well as in macrophages during infection with *Salmonella typhimurium* and *Listeria monocytogenes*. SerpinA3g is activated by IFN- γ and NF κ B, and it may mediate its biological effects via interaction with non-protease intracellular targets.

REFERENCES

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2. Hamerman, J.A., et al. 2002. Serpin 2a is induced in activated macrophages and conjugates to a ubiquitin homolog. *J. Immunol.* 168: 2415-2423.
3. Hampson, L., et al. 2002. A minimal serpin promoter with high activity in haematopoietic progenitors and activated T cells. *Hematol. J.* 2: 150-160.
4. Gettins, P.G. 2002. Serpin structure, mechanism, and function. *Chem. Rev.* 102: 4751-4804.
5. Carrell, R.W., et al. 2003. How serpins change their fold for better and for worse. *Biochem. Soc. Symp.* 70: 163-178.
6. Morris, E.C., et al. 2003. Murine serpin 2A is a redox-sensitive intracellular protein. *Biochem. J.* 371: 165-173.
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8. Stanley, P., et al. 2003. BmSPN2, a serpin secreted by the filarial nematode *Brugia malayi*, does not inhibit human neutrophil proteinases but plays a noninhibitory role. *Biochemistry* 42: 6241-6248.

CHROMOSOMAL LOCATION

Genetic locus: Serpina3g (mouse) mapping to 12 E.

PRODUCT

SerpinA3g 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 SerpinA3g shRNA Plasmid (m): sc-153360-SH and SerpinA3g shRNA (m) Lentiviral Particles: sc-153360-V as alternate gene silencing products.

For independent verification of SerpinA3g (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-153360A, sc-153360B and sc-153360C.

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

SerpinA3g siRNA (m) is recommended for the inhibition of SerpinA3g 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.

GENE EXPRESSION MONITORING

SerpinA3g (MoFo29.2): sc-57013 is recommended as a control antibody for monitoring of SerpinA3g 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SerpinA3g gene expression knockdown using RT-PCR Primer: SerpinA3g (m)-PR: sc-153360-PR (20 μ 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 for detailed protocols and support products.