SANTA CRUZ BIOTECHNOLOGY, INC.

SerpinB6 siRNA (h): sc-63304

BACKGROUND

Members of the serine protease inhibitor superfamily are collectively called serpins. Inhibitory serpins typically form 1:1 complexes with their target proteases, which are often SDS-stable associations. SerpinB6, also known as protease inhibitor 6 (PI-6) in human and Spi3 in mouse, is a serine protease inhibitor with both antitrypsin and antichymotrypsin activity. Although most serpins are secreted glycoproteins that regulate extracellular proteases, SerpinB6 lacks classical nuclear localization, exhibiting primarily cytoplasmic distribution, and is not secreted by conventional methods. SerpinB6 is present in most tissues in capillary endothelial cells, platelets, epithelial cells, monocytes and granulocytes. SerpinB6 binds the arginine-selective protease human kallikrein 2 (hK2) as well as the monocyte and granulocyte azurophilic granule protease cathepsin G. In mouse, there are three SerpinB6 genes, namely SerpinB6a, SerpinB6b and SerpinB6c.

REFERENCES

1. Sun, J., et al. 1995. Gene structure, chromosomal localization, and expression of the murine homologue of human proteinase inhibitor 6 (PI-6) suggests divergence of PI-6 from the ovalbumin serpins. J Biol Chem. 270: 16089-16096.
2. Sprecher C.A., et al. 1995. Molecular cloning, expression, and partial characterization of two novel members of the ovalbumin family of serine proteinase inhibitors. J. Biol. Chem. 270: 29854-29861.
3. Nakaya, N., et al. 1998. The expression and localization of serine proteinase inhibitor PI-6 mRNA in developmental and ischemic mouse brain. Neurosci. Res .32: 221-230.
4. Scott, F.L., et al. 1998. Proteinase inhibitor 6 (PI-6) expression in human skin: induction of PI-6 and a PI-6/proteinase complex during keratinocyte differentiation. Exp. Cell Res. 245: 263-271.
5. SWISS-PROT/TrEMBL (P35237). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: SERPINB6 (human) mapping to 6p25.2.

PRODUCT

SerpinB6 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 SerpinB6 shRNA Plasmid (h): sc-63304-SH and SerpinB6 shRNA (h) Lentiviral Particles: sc-63304-V as alternate gene silencing products.

For independent verification of SerpinB6 (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-63304A, sc-63304B and sc-63304C.

PROTOCOLS

See our web site at 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 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

SerpinB6 siRNA (h) is recommended for the inhibition of SerpinB6 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

SerpinB6 (E-8): sc-398487 is recommended as a control antibody for monitoring of SerpinB6 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 SerpinB6 gene expression knockdown using RT-PCR Primer: SerpinB6 (h)-PR: sc-63304-PR (20 µl). 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.