SANTA CRUZ BIOTECHNOLOGY, INC.

SRCRB4D siRNA (h): sc-89707

BACKGROUND

Scavenger receptors mediate the endocytosis and degradation of chemically modified low density lipoproteins (LDL), such as acetylated LDL (Ac-LDL) and oxidized LDL (Ox-LDL). SRCRB4D (scavenger receptor cysteine rich domain containing, group B (4 domains)), also known as S4D-SRCRB or SRCRB-S4D, is a 575 amino acid member of the SRCR (scavenger receptor cysteine-rich) superfamily. Members of this superfamily are secreted or cell surface membrane-bound proteins with highly conserved SRCR domains and may play a role in the development and regulation of the immune system and its innate and adaptive responses. SRCRB4D is a widely expressed secreted protein that contains four SRCR domains. SRCRB4D specifically belongs to group B of the SRCR superfamily. Members of group B contain eight evenly spaced cysteines within their SRCR domains that create an intradomain disulfide-bond pattern.

REFERENCES

1. Resnick, D., et al. 1994. The SRCR superfamily: a family reminiscent of the Ig superfamily. Trends Biochem. Sci. 19: 5-8.
2. Hohenester, E., et al. 1999. Crystal structure of a scavenger receptor cysteine-rich domain sheds light on an ancient superfamily. Nat. Struct. Biol. 6: 228-232.
3. Pancer, Z. 2000. Dynamic expression of multiple scavenger receptor cysteine-rich genes in coelomocytes of the purple sea urchin. Proc. Natl. Acad. Sci. USA 97: 13156-13161.
4. Padilla, O., et al. 2002. Cloning of S4D-SRCRB, a new soluble member of the group B scavenger receptor cysteine-rich family (SRCR-SF) mapping to human chromosome 7q11.23. Immunogenetics 54: 621-634.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607639. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Sarrias, M.R., et al. 2004. The Scavenger Receptor Cysteine-Rich (SRCR) domain: an ancient and highly conserved protein module of the innate immune system. Crit. Rev. Immunol. 24: 1-37.

CHROMOSOMAL LOCATION

Genetic locus: SRCRB4D (human) mapping to 7q11.23.

PRODUCT

SRCRB4D 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 SRCRB4D shRNA Plasmid (h): sc-89707-SH and SRCRB4D shRNA (h) Lentiviral Particles: sc-89707-V as alternate gene silencing products.

For independent verification of SRCRB4D (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-89707A, sc-89707B and sc-89707C.

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

SRCRB4D siRNA (h) is recommended for the inhibition of SRCRB4D 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

SRCRB4D (A-10): sc-515760 is recommended as a control antibody for monitoring of SRCRB4D 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 SRCRB4D gene expression knockdown using RT-PCR Primer: SRCRB4D (h)-PR: sc-89707-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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.