SANTA CRUZ BIOTECHNOLOGY, INC.

SAA siRNA (h): sc-40817

BACKGROUND

The serum Amyloid A (SAA) family of proteins is encoded by multiple genes which display allelic variation and a high degree of homology in mammals. The four members of the SAA gene family are clustered on human chromosome 11p15.1. Three SAA genes are differentially expressed and encode small apolipoproteins. SAA1 and SAA2 encode the acute phase SAAs (A-SAAs), and SAA4 encodes the constitutively expressed SAA (C-SAA). A fourth locus, SAA3 is a pseudogene that contains two C/EBP-binding sites and a third site, which interacts with SAA3 enhancer factor. Human SAA proteins are a group of apolipoproteins found predominantly in the high-density lipoprotein (HDL) fraction of plasma. SAA is a major acute-phase protein and precursor to Amyloid A protein, which is the major constituent of the fibril deposits of reactive amyloidosis. SAA is secreted in large amounts by the liver during microbial infections or inflammatory diseases.

REFERENCES

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2. Kluve-Beckerman, B., et al. 1988. Human serum Amyloid A. Three hepatic mRNAs and the corresponding proteins in one person. J. Clin. Invest. 82: 1670-1675.
3. Beach, C.M., et al. 1992. Human serum Amyloid A protein. Complete amino acid sequence of a new variant. Biochem. J. 282: 615-620.
4. Sellar, G.C., et al. 1994. Organization of the region encompassing the human serum Amyloid A (SAA) gene family on chromosome 11p15.1. Genomics 23: 492-495.
5. Bing, Z., et al. 1999. Purification and characterization of the serum Amyloid A3 enhancer factor. J. Biol. Chem. 274: 24649-24656.
6. Artl, A., et al. 2000. Role of serum Amyloid A during metabolism of acute-phase HDL by macrophages. Arterioscler. Thromb. Vasc. Biol. 20: 763-772.
7. Badolato, R., et al. 2000. Serum Amyloid A is an activator of PMN antimicrobial functions: induction of degranulation, phagocytosis, and enhancement of anti-Candida activity. J. Leukoc. Biol. 67: 381-386.

CHROMOSOMAL LOCATION

Genetic locus: SAA1 (human) mapping to 11p15.1.

PRODUCT

SAA 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 SAA shRNA Plasmid (h): sc-40817-SH and SAA shRNA (h) Lentiviral Particles: sc-40817-V as alternate gene silencing products.

For independent verification of SAA (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-40817A, sc-40817B and sc-40817C.

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

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

SAA (SAA1): sc-52211 is recommended as a control antibody for monitoring of SAA 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 SAA gene expression knockdown using RT-PCR Primer: SAA (h)-PR: sc-40817-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.