SANTA CRUZ BIOTECHNOLOGY, INC.

AOAH siRNA (h): sc-89739

BACKGROUND

AOAH (acyloxyacyl hydrolase) is a 575 amino acid protein that contains one saposin B-type domain. AOAH is cleaved into two chains, designated AOAH small subunit and AOAH large subunit, both of which contain many cysteine residues that may form disulfide bridges. Mature AOAH is a heterodimer that removes the secondary (acyloxyacyl-linked) fatty acyl chains from the lipid A region of bacterial endotoxins. AOAH is also thought to regulate host inflammatory responses to gram-negative bacterial invasion. The gene that encodes AOAH maps to human chromosome 7, which is about 158 milllion bases long, encodes over 1000 genes and makes up about 5% of the human genome. Chromosome 7 has been linked to Osteogenesis imperfecta, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Hagen, F.S., et al. 1991. Expression and characterization of recombinant human acyloxyacyl hydrolase, a leukocyte enzyme that deacylates bacterial lipopolysaccharides. Biochemistry 30: 8415-8423.
2. McDermott, C.M., et al. 1991. Intracellular and extracellular enzymatic deacylation of bacterial endotoxin during localized inflammation induced by *Escherichia coli*. Infect. Immun. 59: 478-485.
3. Whitmore, T.E., et al. 1994. Chromosomal localization of the acyloxyacyl hydrolase (AOAH) gene to 7p14-p12 using fluorescence *in situ* hybridization. Genomics 21: 457-458.
4. Staab, J.F., et al. 1994. A saposin-like domain influences the intracellular localization, stability, and catalytic activity of human acyloxyacyl hydrolase. J. Biol. Chem. 269: 23736-23742.
5. Coulthard, M.G., et al. 1996. Adenovirus-mediated transfer of a gene encoding acyloxyacyl hydrolase (AOAH) into mice increases tissue and plasma AOAH activity. Infect. Immun. 64: 1510-1515.
6. Barnes, K.C., et al. 2006. Polymorphisms in the novel gene acyloxyacyl hydroxylase (AOAH) are associated with asthma and associated phenotypes. J. Allergy Clin. Immunol. 118: 70-77.

CHROMOSOMAL LOCATION

Genetic locus: AOAH (human) mapping to 7p14.2.

PRODUCT

AOAH 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 AOAH shRNA Plasmid (h): sc-89739-SH and AOAH shRNA (h) Lentiviral Particles: sc-89739-V as alternate gene silencing products.

For independent verification of AOAH (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-89739A, sc-89739B and sc-89739C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

AOAH siRNA (h) is recommended for the inhibition of AOAH 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor AOAH gene expression knockdown using RT-PCR Primer: AOAH (h)-PR: sc-89739-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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