

# ABCA6 siRNA (h): sc-93825

## BACKGROUND

The ATP-binding cassette (ABC) superfamily is comprised of transmembrane proteins involved in energy-dependent transport of a variety of substrates across membranes. ABCA6 is a 1,617 amino acid protein belonging to the ABC transporter family. ABCA6 is up-regulated during monocyte differentiation into macrophages, suggesting a role in macrophage lipid homeostasis. ABCA6 contains two ABC transporter domains and is expressed as three isoforms produced by alternative splicing. ABCA6 is present at highest levels in adult liver, with significant levels found in many adult tissues and fetal lung, kidney and liver.

## REFERENCES

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4. Dean, M., Rzhetsky, A. and Allikmets, R. 2001. The human ATP-binding cassette (ABC) transporter superfamily. *Genome Res.* 11: 1156-1166.
5. Hosgood, H.D., Menashe, I., Shen, M., Yeager, M., Yuenger, J., Rajaraman, P., He, X., Chatterjee, N., Caporaso, N.E., Zhu, Y., Chanock, S.J., Zheng, T. and Lan, Q. 2008. Pathway-based evaluation of 380 candidate genes and lung cancer susceptibility suggests the importance of the cell cycle pathway. *Carcinogenesis* 29: 1938-1943.
6. Saito, A., Kawamoto, M. and Kamatani, N. 2009. Association study between single-nucleotide polymorphisms in 199 drug-related genes and commonly measured quantitative traits of 752 healthy Japanese subjects. *J. Hum. Genet.* 54: 317-323.

## CHROMOSOMAL LOCATION

Genetic locus: ABCA6 (human) mapping to 17q24.2.

## PRODUCT

ABCA6 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ABCA6 shRNA Plasmid (h): sc-93825-SH and ABCA6 shRNA (h) Lentiviral Particles: sc-93825-V as alternate gene silencing products.

For independent verification of ABCA6 (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-93825A, sc-93825B and sc-93825C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

ABCA6 siRNA (h) is recommended for the inhibition of ABCA6 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  $\mu$ M in 66  $\mu$ 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

ABCA6 (F-5): sc-515203 is recommended as a control antibody for monitoring of ABCA6 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>TM</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ABCA6 gene expression knockdown using RT-PCR Primer: ABCA6 (h)-PR: sc-93825-PR (20  $\mu$ 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](http://www.scbt.com) for detailed protocols and support products.