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# RETSAT siRNA (m): sc-152818

## BACKGROUND

RETSAT (retinol saturase (all-*trans*-retinol 13,14-reductase)), also known as all-*trans*-13,14-dihydroretinol saturase, is a 610 amino acid peripheral membrane protein of the endoplasmic reticulum that belongs to the carotenoid/retinoid oxidoreductase family and CrtISO subfamily. RETSAT saturates 13-14 double bonds of all-*trans*-retinol to form all-*trans*-13,14-dihydroretinol, and is implicated in both adipogenesis and vitamin A metabolism. Existing as two alternatively spliced isoforms, RETSAT is directly regulated by PPAR $\gamma$  and is induced during apoptosis. Considered a potential target for therapeutic intervention in metabolic disease, RETSAT is encoded by a gene located on human chromosome 2p11.2, which consists of 237 million bases, encodes over 1,400 genes and makes up approximately 8% of the human genome. A number of genetic diseases are linked to genes on chromosome 2 including Harlequin ichthyosis, sitosterolemia and Alström syndrome.

## REFERENCES

- Shulenin, S., Schriml, L.M., Remaley, A.T., Fojo, S., Brewer, B., Allikmets, R. and Dean, M. 2001. An ATP-binding cassette gene (ABCG5) from the ABCG (white) gene subfamily maps to human chromosome 2p21 in the region of the sitosterolemia locus. *Cytogenet. Cell Genet.* 92: 204-208.
- Hearn, T., Renforth, G.L., Spalluto, C., Hanley, N.A., Piper, K., Brickwood, S., White, C., Connolly, V., Taylor, J.F., Russell-Eggitt, I., Bonneau, D., Walker, M. and Wilson, D.I. 2002. Mutation of ALMS1, a large gene with a tandem repeat encoding 47 amino acids, causes Alström syndrome. *Nat. Genet.* 31: 79-83.
- Moise, A.R., Kuksa, V., Imanishi, Y. and Palczewski, K. 2004. Identification of all-*trans*-retinol:all-*trans*-13,14-dihydroretinol saturase. *J. Biol. Chem.* 279: 50230-50242.
- Kellsell, D.P., Norgett, E.E., Unsworth, H., Teh, M.T., Cullup, T., Mein, C.A., Dopping-Hepenstal, P.J., Dale, B.A., Tadini, G., Fleckman, P., Stephens, K.G., Sybert, V.P., Mallory, S.B., North, B.V., Witt, D.R., Sprecher, E., et al. 2005. Mutations in ABCA12 underlie the severe congenital skin disease harlequin ichthyosis. *Am. J. Hum. Genet.* 76: 794-803.
- Boon Yin, K., Najimudin, N. and Muhammad, T.S. 2008. The PPAR $\gamma$  coding region and its role in visceral obesity. *Biochem. Biophys. Res. Commun.* 371: 177-179.
- Schupp, M., Lefterova, M.I., Janke, J., Leitner, K., Cristancho, A.G., Mullican, S.E., Qatanani, M., Szwergold, N., Steger, D.J., Curtin, J.C., Kim, R.J., Suh, M.J., Suh, M., Albert, M.R., Engeli, S., Gudas, L.J. and Lazar, M.A. 2009. Retinol saturase promotes adipogenesis and is downregulated in obesity. *Proc. Natl. Acad. Sci. USA* 106: 1105-1110.

## CHROMOSOMAL LOCATION

Genetic locus: Retsat (mouse) mapping to 6 C1.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

RETSAT siRNA (m) 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 RETSAT shRNA Plasmid (m): sc-152818-SH and RETSAT shRNA (m) Lentiviral Particles: sc-152818-V as alternate gene silencing products.

For independent verification of RETSAT (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-152818A, sc-152818B and sc-152818C.

## 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

RETSAT siRNA (m) is recommended for the inhibition of RETSAT expression in mouse 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RETSAT gene expression knockdown using RT-PCR Primer: RETSAT (m)-PR: sc-152818-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.