

# AURA1 siRNA (h): sc-90654

## BACKGROUND

AURA1 (augmented in rheumatoid arthritis 1), also known as oleoyl-ACP hydrolase (OLAH), thioesterase II, S-acyl fatty acid synthase thioesterase, medium chain (SAST) or thioesterase domain containing 1 (THEDC1), is a 265 amino acid protein belonging to the thioesterase family. A component of the fatty acid synthetase complex, AURA1 catalyzes the formation of oleoyl to oleate. AURA1 expression has been found to be augmented in bone marrow-derived mononuclear cells (BMMC) of patients with rheumatoid arthritis (RA) and is encoded by a gene that maps to human chromosome 10p13, a region associated with late-onset Alzheimer disease. Making up 4.5% of the human genome, chromosome 10 encodes roughly 800 genes including PTEN, a tumor suppressor gene that has been linked to the development of Cowden syndrome. The chromosome 10 encoded gene ERCC6 is important for DNA repair and is linked to Cockayne syndrome which is characterized by extreme photosensitivity and premature aging.

## REFERENCES

1. Troelstra, C., et al. 1992. Localization of the nucleotide excision repair gene ERCC6 to human chromosome 10q11-q21. *Genomics* 12: 745-749.
2. Grupe, A., et al. 2006. A scan of chromosome 10 identifies a novel locus showing strong association with late-onset Alzheimer disease. *Am. J. Hum. Genet.* 78: 78-88.
3. Nakamura, N., et al. 2006. Isolation and expression profiling of genes upregulated in bone marrow-derived mononuclear cells of rheumatoid arthritis patients. *DNA Res.* 13: 169-183.
4. Teresi, R.E., et al. 2007. Cowden syndrome-affected patients with PTEN promoter mutations demonstrate abnormal protein translation. *Am. J. Hum. Genet.* 81: 756-767.
5. Yin, Y. and Shen, W.H. 2008. PTEN: a new guardian of the genome. *Oncogene* 27: 5443-5453.

## CHROMOSOMAL LOCATION

Genetic locus: OLAH (human) mapping to 10p13.

## PRODUCT

AURA1 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 AURA1 shRNA Plasmid (h): sc-90654-SH and AURA1 shRNA (h) Lentiviral Particles: sc-90654-V as alternate gene silencing products.

For independent verification of AURA1 (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-90654A, sc-90654B and sc-90654C.

## PROTOCOLS

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

## 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

AURA1 siRNA (h) is recommended for the inhibition of AURA1 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor AURA1 gene expression knockdown using RT-PCR Primer: AURA1 (h)-PR: sc-90654-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.