

# NDUFAF6 siRNA (m): sc-108681

## BACKGROUND

Made up of nearly 146 million bases, chromosome 8 encodes about 800 genes. Translocation of portions of chromosome 8 with amplifications of the c-Myc gene are found in some leukemias and lymphomas, and typically associated with a poor prognosis. Portions of chromosome 8 have been linked to schizophrenia and bipolar disorder. Trisomy 8, also known as Warkany syndrome 2, most often results in early miscarriage but is occasionally seen in a mosaic form in surviving patients who suffer to a varying degree from a number of symptoms including retarded mental and motor development, and certain facial and developmental defects. WRN is a DNA helicase encoded by chromosome 8 and shown defective in those with the early aging disorder Werner syndrome. Chromosome 8 is also associated with Pfeiffer syndrome, congenital hypothyroidism and Waardenburg syndrome. The C8orf38 gene product has been implicated as a cause of mitochondrial complex I deficiency (MT-C1D), disorder of the mitochondrial respiratory chain that causes a wide range of clinical disorders.

## REFERENCES

1. Robin, N.H., et al. 1994. Linkage of Pfeiffer syndrome to chromosome 8 centromere and evidence for genetic heterogeneity. *Hum. Mol. Genet.* 3: 2153-2158.
2. Zollino, M., et al. 1995. Constitutional trisomy 8 and myelodysplasia: report of a case and review of the literature. *Leuk. Res.* 19: 733-736.
3. Kashino, G., et al. 2001. Preferential expression of an intact WRN gene in Werner syndrome cell lines in which a normal chromosome 8 has been introduced. *Biochem. Biophys. Res. Commun.* 289: 111-115.
4. Selicorni, A., et al. 2002. Cytogenetic mapping of a novel locus for type II Waardenburg syndrome. *Hum. Genet.* 110: 64-67.
5. McQueen, M.B., et al. 2005. Combined analysis from eleven linkage studies of bipolar disorder provides strong evidence of susceptibility loci on chromosomes 6q and 8q. *Am. J. Hum. Genet.* 77: 582-595.
6. Mossafa, H., et al. 2006. Non-Hodgkin's lymphomas with Burkitt-like cells are associated with c-Myc amplification and poor prognosis. *Leuk. Lymphoma* 47: 1885-1893.
7. Nusbaum, C., et al. 2006. DNA sequence and analysis of human chromosome 8. *Nature* 439: 331-335.
8. Agrelo, R., et al. 2006. Epigenetic inactivation of the premature aging Werner syndrome gene in human cancer. *Proc. Natl. Acad. Sci. USA* 103: 8822-8827.
9. Pagliarini, D.J., et al. 2008. A mitochondrial protein compendium elucidates complex I disease biology. *Cell* 134: 112-123.

## CHROMOSOMAL LOCATION

Genetic locus: Ndufaf6 (mouse) mapping to 4 A1.

## PROTOCOLS

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

## PRODUCT

NDUFAF6 siRNA (m) is a pool of 2 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 NDUFAF6 shRNA Plasmid (m): sc-108681-SH and NDUFAF6 shRNA (m) Lentiviral Particles: sc-108681-V as alternate gene silencing products.

For independent verification of NDUFAF6 (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-108681A and sc-108681B.

## 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

NDUFAF6 siRNA (m) is recommended for the inhibition of NDUFAF6 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.

## SRT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor NDUFAF6 gene expression knockdown using RT-PCR Primer: NDUFAF6 (m)-PR: sc-108681-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.