

# CNTD1 siRNA (h): sc-93735

## BACKGROUND

CNTD1 (cyclin N-terminal domain containing 1), also known as CNTD, is a 330 amino acid protein that contains one cyclin N-terminal domain and exists as 2 alternatively spliced isoforms. The gene encoding CNTD1 maps to human chromosome 17, which comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes. Chromosome 17 is also linked to neurofibromatosis, Alexander disease, Birt-Hogg-Dube syndrome and Canavan disease.

## REFERENCES

1. Welsch, M.J., et al. 2005. Birt-Hogg-Dube Syndrome. *Int. J. Dermatol.* 44: 668-673.
2. Nusbaum, R., et al. 2006-2007. Susceptibility to breast cancer: hereditary syndromes and low penetrance genes. *Breast Dis* 27: 21-50.
3. Al-Dibbashi, O.Y., et al. 2007. Quantification of N-acetylaspartic acid in urine by LC-MS/MS for the diagnosis of Canavan disease. *J. Inher. Metab. Dis.* 30: 612.
4. Dann, R.B., et al. 2007. Strategies for ovarian cancer prevention. *Obstet. Gynecol. Clin. North Am.* 34: 667-686.
5. Farrell, C.J., et al. 2007. Genetic causes of brain tumors: neurofibromatosis, tuberous sclerosis, von Hippel-Lindau, and other syndromes. *Neurol Clin* 25: 925-946.

## CHROMOSOMAL LOCATION

Genetic locus: CNTD1 (human) mapping to 17q21.31.

## PRODUCT

CNTD1 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 CNTD1 shRNA Plasmid (h): sc-93735-SH and CNTD1 shRNA (h) Lentiviral Particles: sc-93735-V as alternate gene silencing products.

For independent verification of CNTD1 (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-93735A, sc-93735B and sc-93735C.

## 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

CNTD1 siRNA (h) is recommended for the inhibition of CNTD1 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 CNTD1 gene expression knockdown using RT-PCR Primer: CNTD1 (h)-PR: sc-93735-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.