

# CNKS3 siRNA (h): sc-95360

## BACKGROUND

CNKS3 (connector enhancer of kinase suppressor of ras 3), also known as CNK homolog protein 3, CNKS3 family member 3 or maguin-like protein, is a 555 amino acid protein that belongs to the CNKS3 family. Suggested to play a role in transepithelial sodium transport, CNKS3 mediates aldosterone-induced and ENaC-mediated sodium transport, and is upregulated by aldosterone. CNKS3 contains one SAM (sterile  $\alpha$  motif) domain, a CRIC domain, DUF1170 domain and a single PDZ (DHR) domain. The gene encoding CNKS3 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

## REFERENCES

1. Brunner, H.G., et al. 1994. A Stickler syndrome gene is linked to chromosome 6 near the COL11A2 gene. *Hum. Mol. Genet.* 3: 1561-1564.
2. Cesari, R., et al. 2003. Parkin, a gene implicated in autosomal recessive juvenile parkinsonism, is a candidate tumor suppressor gene on chromosome 6q25-q27. *Proc. Natl. Acad. Sci. USA* 100: 5956-5961.
3. Wright, G.J., et al. 2004. Delta proteins and MAGI proteins: an interaction of Notch ligands with intracellular scaffolding molecules and its significance for zebrafish development. *Development* 131: 5659-5669.
4. Bläker, H., et al. 2008. Recurrent deletions at 6q in early age of onset non-HNPCC- and non-FAP-associated intestinal carcinomas. Evidence for a novel cancer susceptibility locus at 6q14-q22. *Genes Chromosomes Cancer* 47: 159-164.
5. Ziera, T., et al. 2009. CNKS3 is a direct mineralocorticoid receptor target gene and plays a key role in the regulation of the epithelial sodium channel. *FASEB J.* 23: 3936-3946.
6. Jalil, S., et al. 2010. Associations among behavior-related susceptibility factors in porphyria cutanea tarda. *Clin. Gastroenterol. Hepatol.* 8: 297-302, 302.e1.

## CHROMOSOMAL LOCATION

Genetic locus: CNKS3 (human) mapping to 6q25.2.

## PRODUCT

CNKS3 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 CNKS3 shRNA Plasmid (h): sc-95360-SH and CNKS3 shRNA (h) Lentiviral Particles: sc-95360-V as alternate gene silencing products.

For independent verification of CNKS3 (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-95360A, sc-95360B and sc-95360C.

## 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

CNKS3 siRNA (h) is recommended for the inhibition of CNKS3 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 CNKS3 gene expression knockdown using RT-PCR Primer: CNKS3 (h)-PR: sc-95360-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.