

# Enkurin siRNA (h): sc-90743

## BACKGROUND

Enkurin (ENKUR) is a 256 amino acid adapter protein that brings signal transduction proteins and transient receptor potential canonical (TRPC) cation channels into contact. Localizing to the acrosomal crescent and flagellar principal piece of sperm, Encurin contains one IQ domain which it uses to bind CaM (calmodulin). Encurin is highly expressed in testis and vomeronasal organ, but is also found at lower levels in brain, ovary, heart and lung. The gene encoding Encurin maps to human chromosome 10, which contains over 800 genes and 135 million nucleotides. PTEN is an important tumor suppressor gene located on chromosome 10 and, when defective, causes a genetic predisposition to cancer development known as Cowden syndrome. Other chromosome 10 associated disorders include Cockayne syndrome, tetrahydrobiopterin deficiency and trisomy 10.

## 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. Sutton, K.A., et al. 2004. Encurin is a novel calmodulin and TRPC channel binding protein in sperm. *Dev. Biol.* 274: 426-435.
3. 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.
4. Beech, D.J. 2007. Canonical transient receptor potential 5. *Handb. Exp. Pharmacol.* 179: 109-123.
5. Yin, Y. and Shen, W.H. 2008. PTEN: a new guardian of the genome. *Oncogene* 27: 5443-5453.
6. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2009. Johns Hopkins University, Baltimore, MD. MIM Number: 611025. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Laugel, V., et al. 2010. Mutation update for the CSB/ERCC6 and CSA/ERCC8 genes involved in Cockayne syndrome. *Hum. Mutat.* 31: 113-126.

## CHROMOSOMAL LOCATION

Genetic locus: ENKUR (human) mapping to 10p12.1.

## PRODUCT

Enkurin 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 Encurin shRNA Plasmid (h): sc-90743-SH and Encurin shRNA (h) Lentiviral Particles: sc-90743-V as alternate gene silencing products.

For independent verification of Encurin (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-90743A, sc-90743B and sc-90743C.

## 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

Enkurin siRNA (h) is recommended for the inhibition of Encurin 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 Encurin gene expression knockdown using RT-PCR Primer: Encurin (h)-PR: sc-90743-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.