



HIC-2 siRNA (m): sc-145959

BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. The majority of zinc-finger proteins contain a Krüppel-type DNA binding domain and a KRAB domain, which is thought to interact with KAP1, thereby recruiting histone modifying proteins. HIC-2 (hypermethylated in cancer 2) possesses zinc finger motifs that are thought to be important for DNA-binding and also has a BTB/POZ domain at the N-terminus, which is thought to be important for protein-protein binding, as well as for the binding of transcription factors. HIC-2 is also known as Hic-3, HIC1-related gene on chromosome 22 or Zinc finger and BTB domain-containing protein 30, and is a 615 amino acid protein that is expressed as 2 isoforms produced by alternative splicing. HIC-2 is highly expressed in cerebellum and is localized to the nucleus in cells. HIC-2 contains a short amino acid sequence that is thought to interact with CtBP, a transcriptional repressor. The gene sequence associated with HIC-2 is thought to be a target for miRNAs (microRNAs) which are expressed in many cancers, suggesting that HIC-2 could possess tumor suppressor capabilities.

REFERENCES

1. Deltour, S., et al. 2001. Characterization of HRG22, a human homologue of the putative tumor suppressor gene HIC1. *Biochem. Biophys. Res. Commun.* 287: 427-434.
2. Deltour, S., et al. 2002. The human candidate tumor suppressor gene HIC1 recruits CtBP through a degenerate GLDLSKK motif. *Mol. Cell. Biol.* 22: 4890-4901.
3. Bertrand, S., et al. 2004. Identification and developmental expression of the zebrafish orthologue of the tumor suppressor gene HIC1. *Biochim. Biophys. Acta* 1678: 57-66.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 607712. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Tran, N., et al. 2007. MicroRNA expression profiles in head and neck cancer cell lines. *Biochem. Biophys. Res. Commun.* 358: 12-17.

CHROMOSOMAL LOCATION

Genetic locus: Hic2 (mouse) mapping to 16 A3.

PRODUCT

HIC-2 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HIC-2 shRNA Plasmid (m): sc-145959-SH and HIC-2 shRNA (m) Lentiviral Particles: sc-145959-V as alternate gene silencing products.

For independent verification of HIC-2 (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-145959A, sc-145959B and sc-145959C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

HIC-2 siRNA (m) is recommended for the inhibition of HIC-2 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 μ M in 66 μ 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 HIC-2 gene expression knockdown using RT-PCR Primer: HIC-2 (m)-PR: sc-145959-PR (20 μ 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 for detailed protocols and support products.