SANTA CRUZ BIOTECHNOLOGY, INC.

Isthmin siRNA (h): sc-156174

BACKGROUND

Isthmin, also known as Ism or Ism1, is a 454 amino acid secreted protein belonging to the Isthmin family. Isthmin contains an AMOP motif and a thrombospondin type-1 domain, the latter of which is shared by several mammalian proteins with diverse biological functions, including cell adhesion, angiogenesis and patterning of developing nervous system. Isthmin has also been identified as a novel angiogenesis inhibitor of tumor growth in mice. The gene encoding Isthmin is located on mouse chromosome 2 F3 and human chromosome 20p12.1. Human chromosome 20 is comprised of approximately 2% of the human genome and contains nearly 63 million bases that encode over 600 genes, some of which are associated with Creutzfeldt-Jakob disease, amyotrophic lateral sclerosis, spinal muscular atrophy, ring chromosome 20 epilepsy syndrome and Alagille syndrome. Additionally, chromosome 20 contains a region with numerous genes which are thought important for seminal production and may be potential targets for male contraception.

REFERENCES

1. Hayashi, S., et al. 2004. Expression patterns of *Xenopus* FGF receptor-like 1/nou-darake in early *Xenopus* development resemble those of planarian nou-darake and *Xenopus* FGF8. Dev. Dyn. 230: 700-707.
2. Rossi, V., et al. 2004. TAIL1: an Isthmin-like gene, containing type 1 thrombospondin-repeat and AMOP domain, mapped to ARVD1 critical region. Gene 335: 101-108.
3. Elghezal, H., et al. 2007. RING chromosome 20 syndrome without deletions of the subtelomeric and CHRNA4-KCNQ2 genes loci. Eur. J. Med. Genet. 50: 441-445.
4. Lundwall, A. 2007. A locus on chromosome 20 encompassing genes that are highly expressed in the epididymis. Asian J. Androl. 9: 540-544.

CHROMOSOMAL LOCATION

Genetic locus: ISM1 (human) mapping to 20p12.1.

PRODUCT

Isthmin 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Isthmin shRNA Plasmid (h): sc-156174-SH and Isthmin shRNA (h) Lentiviral Particles: sc-156174-V as alternate gene silencing products.

For independent verification of Isthmin (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-156174A, sc-156174B and sc-156174C.

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.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Isthmin siRNA (h) is recommended for the inhibition of Isthmin 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 µM in 66 µl. 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 Isthmin gene expression knockdown using RT-PCR Primer: Isthmin (h)-PR: sc-156174-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.