SANTA CRUZ BIOTECHNOLOGY, INC.

Ran BP-17 siRNA (h): sc-76346

BACKGROUND

The transport of proteins and large RNAs through the nuclear pore complexes (NPC) is an energy-dependent and regulated process. The import of proteins with a nuclear localization signal (NLS) is accomplished by recognition of one or more clusters of basic amino acids by the importin-α/β complex. The small GTPase Ran plays a key role in NLS-dependent protein import. Ran BP-17 (Ran-binding protein 17) is a 1,088 amino acid protein that belongs to the importin-β superfamily of nuclear transport receptors. Ran BP-17 is highly expressed in testis, moderately expressed in pancreas and weakly expressed in heart, placenta, lung, liver, thyroid, spinal cord, trachea and adrenal gland. The Ran BP-17 protein binds to nucleoporins and the GTP-bound form of Ran. Human Ran BP-16 and Ran BP-17 share 66% amino acid sequence identity. The Ran BP-17 gene is conserved in chimpanzee, canine, bovine, mouse and rat, and maps to human chromosome 5q35.1.

REFERENCES

1. Saltman, D.L., et al. 1993. A physical map of 15 loci on human chromosome 5q23-q33 by two-color fluorescence *in situ* hybridization. Genomics 16: 726-732.
2. Koch, P., et al. 2000. Identification of a novel putative Ran-binding protein and its close homologue. Biochem. Biophys. Res. Commun. 278: 241-249.
3. Kutay, U., et al. 2000. Identification of two novel RanGTP-binding proteins belonging to the importin β superfamily. J. Biol. Chem. 275: 40163-40168.
4. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 606141. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Su, X.Y., et al. 2006. HOX11L2/TLX3 is transcriptionally activated through T-cell regulatory elements downstream of BCL11B as a result of the t(5;14)(q35;q32). Blood 108: 4198-4201.
6. Koolen, D.A., et al. 2006. Holoprosencephaly and preaxial polydactyly associated with a 1.24 Mb duplication encompassing FBXW11 at 5q35.1. J. Hum. Genet. 51: 721-726.

CHROMOSOMAL LOCATION

Genetic locus: RANBP17 (human) mapping to 5q35.1.

PRODUCT

Ran BP-17 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 Ran BP-17 shRNA Plasmid (h): sc-76346-SH and Ran BP-17 shRNA (h) Lentiviral Particles: sc-76346-V as alternate gene silencing products.

For independent verification of Ran BP-17 (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-76346A, sc-76346B and sc-76346C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

Ran BP-17 siRNA (h) is recommended for the inhibition of Ran BP-17 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 Ran BP-17 gene expression knockdown using RT-PCR Primer: Ran BP-17 (h)-PR: sc-76346-PR (20 µl, 565 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.