

SPNR siRNA (m): sc-153774

BACKGROUND

Spermatogenesis is the process by which male spermatogonia develop into mature spermatozoa. The spermatid perinuclear RNA-binding protein (SPNR), also designated STRBP, is a microtubule-associated RNA-binding protein that localizes to the manchette in developing spermatids and plays a role in the regulation of cell growth. SPNR binds to double-stranded DNA and RNA, most efficiently to poly(I:C) RNA than to poly(dI:dC) DNA. It also binds to single-stranded poly(G) RNA and non-specifically to the mRNA PRM1 3'-UTR and adenovirus VA RNA. SPNR is a 672 amino acid protein that contains two DRBM (double-stranded RNA-binding) domains and one DZF domain. Existing as two isoforms, SPNR is expressed at high levels in testis, ovary and brain.

REFERENCES

1. Dadoune, J.P. 1994. The cellular biology of mammalian spermatids: a review. *Bull. Assoc. Anat.* 78: 33-40.
2. Schumacher, J.M., Lee, K., Edelhoff, S. and Braun, R.E. 1995. Spnr, a murine RNA-binding protein that is localized to cytoplasmic microtubules. *J. Cell Biol.* 129: 1023-1032.
3. Schumacher, J.M., Artzt, K. and Braun, R.E. 1998. Spermatid perinuclear ribonucleic acid-binding protein binds microtubules *in vitro* and associates with abnormal manchettes *in vivo* in mice. *Biol. Reprod.* 59: 69-76.
4. Pires-daSilva, A., Nayernia, K., Engel, W., Torres, M., Stoykova, A., Chowdhury, K. and Gruss, P. 2001. Mice deficient for spermatid perinuclear RNA-binding protein show neurologic, spermatogenic, and sperm morphological abnormalities. *Dev. Biol.* 233: 319-328.
5. Toshimori, K., Yoshinaga, K., Tanii, I., Wakayama, T., Saxena, D.K. and Ohoka, T. 2001. Protein expression and cell organelle behavior in spermatogenic cells. *Kaibogaku Zasshi* 7: 267-279.
6. Kierszenbaum, A.L. 2002. Intramanchette transport (IMT): managing the making of the spermatid head, centrosome, and tail. *Mol. Reprod. Dev.* 63: 1-4.
7. Hermo, L., Pelletier, R.M., Cyr, D.G. and Smith, C.E. 2010. Surfing the wave, cycle, life history, and genes/proteins expressed by testicular germ cells. Part 2: changes in spermatid organelles associated with development of spermatozoa. *Microsc. Res. Tech.* 73: 279-319.

CHROMOSOMAL LOCATION

Genetic locus: Strbp (mouse) mapping to 2 B.

PRODUCT

SPNR siRNA (m) is a target-specific 19-25 nt siRNA 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 SPNR shRNA Plasmid (m): sc-153774-SH and SPNR shRNA (m) Lentiviral Particles: sc-153774-V as alternate gene silencing products.

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 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

SPNR siRNA (m) is recommended for the inhibition of SPNR 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 SPNR gene expression knockdown using RT-PCR Primer: SPNR (m)-PR: sc-153774-PR (20 μ l). 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.