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# SPAG8 siRNA (m): sc-153708

## BACKGROUND

SPAG8 (sperm-associated antigen 8) is a 426 amino acid protein that exists as two alternatively spliced isoforms and localizes to the acrosome. As a result of its interaction with Ran BP-M, SPAG8 may play a role in fertility and microtubule formation. While highly expressed in testis, SPAG8 has no expression in liver, kidney, prostate or small intestine. The gene that encodes SPAG8 consists of approximately 4,488 bases and maps to human chromosome 9p13.3. Housing over 900 genes, chromosome 9 comprises nearly 4% of the human genome. Hereditary hemorrhagic telangiectasia, which is characterized by harmful vascular defects and familial dysautonomia, are both associated with chromosome 9. Mutations in DFNB31, located on human chromosome 9, are associated with Usher syndrome type 2, which is characterized by severe rod-cone dystrophy and varying degrees of hearing impairment. Notably, chromosome 9 encompasses the largest interferon family gene cluster.

## REFERENCES

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2. Online Mendelian Inheritance in Man, OMIM™. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 605731. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
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4. Ebermann, I., et al. 2007. A novel gene for Usher syndrome type 2: mutations in the long isoform of whirlin are associated with retinitis pigmentosa and sensorineural hearing loss. *Hum. Genet.* 121: 203-211.
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6. Zeitz, M.J., et al. 2009. Organization of the amplified type I interferon gene cluster and associated chromosome regions in the interphase nucleus of human osteosarcoma cells. *Chromosome Res.* 17: 305-319.
7. Gold-von Simson, G., et al. 2009. Kinetin in familial dysautonomia carriers: implications for a new therapeutic strategy targeting mRNA splicing. *Pediatr. Res.* 65: 341-346.
8. Axelrod, F.B., et al. 2010. Neuroimaging supports central pathology in familial dysautonomia. *J. Neurol.* 257: 198-206.
9. Audo, I., et al. 2011. A novel DFNB31 mutation associated with Usher type 2 syndrome showing variable degrees of auditory loss in a consanguineous Portuguese family. *Mol. Vis.* 17: 1598-1606.

## CHROMOSOMAL LOCATION

Genetic locus: Spag8 (mouse) mapping to 4 B1.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

SPAG8 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SPAG8 shRNA Plasmid (m): sc-153708-SH and SPAG8 shRNA (m) Lentiviral Particles: sc-153708-V as alternate gene silencing products.

For independent verification of SPAG8 (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-153708A, sc-153708B and sc-153708C.

## 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

SPAG8 siRNA (m) is recommended for the inhibition of SPAG8 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  $\mu$ 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 SPAG8 gene expression knockdown using RT-PCR Primer: SPAG8 (m)-PR: sc-153708-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.