

# SPATA2 siRNA (h): sc-76550

## BACKGROUND

SPATA2 (spermatogenesis associated protein 2), also known as PD1 or tamo, is a 520 amino acid nuclear protein expressed at high levels in testis and at lower levels in various other tissues. SPATA2 is predominantly expressed in Sertoli cells and, although not found in spermatogenic cells, is believed to participate in the regulation of spermatogenesis. SPATA2 shares high sequence identity with the rat homolog (approximately 85%), suggesting that SPATA2 has been conserved through mammalian evolution. In response to FSH (follicle stimulating hormone) stimulation, the primary hormone regulating Sertoli cell function, SPATA2 mRNA levels exhibit a significant increase. This suggests that SPATA2 is an FSH-responsive protein and may play a role in the FSH-dependent function of Sertoli cells.

## REFERENCES

1. Nagase, T., Ishikawa, K., Suyama, M., Kikuno, R., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1998. Prediction of the coding sequences of unidentified human genes. XI. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 5: 277-286.
2. Graziotto, R., Foresta, C., Scannapieco, P., Zeilante, P., Russo, A., Negro, A., Salmaso, R. and Onisto, M. 1999. cDNA cloning and characterization of PD1: a novel human testicular protein with different expressions in various testiculopathies. Exp. Cell Res. 248: 620-626.
3. Onisto, M., Graziotto, R., Scannapieco, P., Marin, P., Merico, M., Slongo, M.L. and Foresta, C. 2000. A novel gene (PD1) with a potential role on rat spermatogenesis. J. Endocrinol. Invest. 23: 605-608.
4. Onisto, M., Slongo, L.M., Graziotto, R., Zotti, L., Negro, A., Merico, M., Moro, E. and Foresta, C. 2001. Evidence for FSH-dependent upregulation of SPATA2 (spermatogenesis-associated protein 2). Biochem. Biophys. Res. Commun. 283: 86-92.

## CHROMOSOMAL LOCATION

Genetic locus: SPATA2 (human) mapping to 20q13.13.

## PRODUCT

SPATA2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SPATA2 shRNA Plasmid (h): sc-76550-SH and SPATA2 shRNA (h) Lentiviral Particles: sc-76550-V as alternate gene silencing products.

For independent verification of SPATA2 (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-76550A, sc-76550B and sc-76550C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

SPATA2 siRNA (h) is recommended for the inhibition of SPATA2 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  $\mu$ 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.

## GENE EXPRESSION MONITORING

SPATA2 (B-7): sc-515283 is recommended as a control antibody for monitoring of SPATA2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SPATA2 gene expression knockdown using RT-PCR Primer: SPATA2 (h)-PR: sc-76550-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.