SANTA CRUZ BIOTECHNOLOGY, INC.

ACRV1 siRNA (m): sc-140825

BACKGROUND

ACRV1 (acrosomal vesicle protein 1), also known as acrosomal protein SP-10 or SPACA2, is a 265 amino acid protein. ACRV1 is encoded by a gene that maps to human chromosome 11q24.2, at the junction between 11q23 and 11q24. Containing four exons, ACRV1 may experience cryptic splicing and exon skipping. ACRV1 exists as 11 alternatively spliced isoforms and may be involved in sperm-zona binding or penetration. ACRV1 encodes a testis-specific, differentiation antigen, acrosomal vesicle protein 1 that originates in the acrosomal vesicle during spermatogenesis, and is affiliated with acrosomal membranes and mature sperm matrix. ACRV1 is a potential contraceptive vaccine immunogen.

REFERENCES

1. Wright, R.M., et al. 1990. Cloning and sequencing of cDNAs coding for the human intra-acrosomal antigen SP-10. Biol. Reprod. 42: 693-701.
2. Homyk, M., et al. 1990. Differential diagnosis of immature germ cells in semen utilizing monoclonal antibody MHS-10 to the intra-acrosomal antigen SP-10. Fertil. Steril. 53: 323-330.
3. Herr, J.C., et al. 1991. Assignment of the gene for human intra-acrosomal protein SP-10 to the p12→q13 region of chromosome 11. J. Androl. 12: 281-287.
4. Herr, J.C., et al. 1992. Purification and microsequencing of the intra-acrosomal protein SP-10. Evidence that SP-10 heterogeneity results from endoproteolytic processes. Biol. Reprod. 47: 11-20.
5. Golden, W.L., et al. 1993. Refinement of the localization of the gene for human intraacrosomal protein SP-10 (ACRV1) to the junction of bands q23→q24 of chromosome 11 by nonisotopic *in situ* hybridization. Genomics 18: 446-449.
6. Wright, R.M., et al. 1993. Cloning and characterization of the gene coding for the human acrosomal protein SP-10. Biol. Reprod. 49: 316-325.
7. Foster, J.A., et al. 1994. Human SP-10: acrosomal distribution, processing, and fate after the acrosome reaction. Biol. Reprod. 51: 1222-1231.
8. Freemerman, A.J., et al. 1995. Characterization of alternatively spliced human SP-10 mRNAs. Mol. Reprod. Dev. 41: 100-108.

CHROMOSOMAL LOCATION

Genetic locus: Acrv1 (mouse) mapping to 9 A4.

PRODUCT

ACRV1 siRNA (m) is a pool of 2 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 ACRV1 shRNA Plasmid (m): sc-140825-SH and ACRV1 shRNA (m) Lentiviral Particles: sc-140825-V as alternate gene silencing products.

For independent verification of ACRV1 (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-140825A and sc-140825B.

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

ACRV1 siRNA (m) is recommended for the inhibition of ACRV1 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 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.

GENE EXPRESSION MONITORING

ACRV1 (A-9): sc-398536 is recommended as a control antibody for monitoring of ACRV1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ACRV1 gene expression knockdown using RT-PCR Primer: ACRV1 (m)-PR: sc-140825-PR (20 µl). 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.

PROTOCOLS

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