SANTA CRUZ BIOTECHNOLOGY, INC.

ASRGL1 siRNA (h): sc-96527

BACKGROUND

ASRGL1 (Asparaginase-like protein 1), also known as CRASH, is a 308 amino acid protein belonging to the Ntn-hydrolase family. This family of proteins shares a four-layered, catalytically-active αββα-core structure and has been shown to be evolutionarily related to penicillin V acylase. Specifically, asparaginases utilize asparagine as a substrate to produce aspartic acid and ammonia. ASRGL1 has been identified as a autoantigenic protein that is present in the mid-piece of sperm after obstruction of the male reproductive tract. Suggested to subcellularly localize to mitochondria, ASRGL1 is expressed highly in testis, but is also expressed in brain, kidney and gastrointestinal tissues. High levels of ASRGL1 have also been identified in ovarian, uterine and mammary tumors in comparison with normal tissues of the same origin. There are two named isoforms of ASRGL1 which are produced by alternative splicing.

REFERENCES

1. Handley, H.H., et al. 1988. Post-vasectomy sperm autoimmunogens in the Lewis rat. Biol. Reprod. 39: 1239-1250.
2. Handley, H.H., et al. 1991. Localization of post-vasectomy sperm autoantigens in the Lewis rat. J. Reprod. Immunol. 20: 205-220.
3. Herr, J.C., et al. 1999. Sperm mitochondria-associated cysteine-rich protein (SMCP) is an autoantigen in Lewis rats. Biol. Reprod. 61: 428-435.
4. Suresh, C.G., et al. 1999. Penicillin V acylase crystal structure reveals new Ntn-hydrolase family members. Nat. Struct. Biol. 6: 414-416.
5. Bush, L.A., et al. 2002. A novel asparaginase-like protein is a sperm autoantigen in rats. Mol. Reprod. Dev. 62: 233-247.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609212. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
7. Evtimova, V., et al. 2004. Identification of CRASH, a gene deregulated in gynecological tumors. Int. J. Oncol. 24: 33-41.

CHROMOSOMAL LOCATION

Genetic locus: ASRGL1 (human) mapping to 11q12.3.

PRODUCT

ASRGL1 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 ASRGL1 shRNA Plasmid (h): sc-96527-SH and ASRGL1 shRNA (h) Lentiviral Particles: sc-96527-V as alternate gene silencing products.

For independent verification of ASRGL1 (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-96527A, sc-96527B and sc-96527C.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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 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

ASRGL1 siRNA (h) is recommended for the inhibition of ASRGL1 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 60 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

ASRGL1 (N-17): sc-249969 is recommended as a control antibody for monitoring of ASRGL1 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).

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RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ASRGL1 gene expression knockdown using RT-PCR Primer: ASRGL1 (h)-PR: sc-96527-PR (20 µl). An-nealing 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.