SANTA CRUZ BIOTECHNOLOGY, INC.

ADAM6A siRNA (m): sc-61949

BACKGROUND

ADAMs (disintegrin and metalloproteinase domain), also known as MDCs (metalloproteinase, disintegrin and cysteine-rich domain) or cellular disintegrins are a family of proteins that are ubiquitously expressed. They catalyze proteolysis, adhesion, fusion and intracellular signaling. ADAMs are membrane-anchored, glycosylated, Zn^{2+}-dependent proteases, and there are over 30 different members in the family, with many diverse functions. ADAM1-6 localize to the testis, are developmentally regulated, and are involved in spermatogenesis and sperm-egg binding and fusion. ADAM6 is exclusively expressed in the germ cells of the testis. Evidence has shown that peptides targeting the disintegrin domain of ADAM6 do not disturb spermatogenic cell attachment to Sertoli cell surfaces.

REFERENCES

1. Wolfsberg, T.G., et al. 1995. ADAM, a novel family of membrane proteins containing a disintegrin and metalloprotease domain: multipotential functions in cell-cell and cell-matrix interactions. J. Cell Biol. 131: 275-278.
2. Cho, C., et al. 1996. Chromosomal assignment of four testis-expressed mouse genes from a new family of transmembrane proteins (ADAMs) involved in cell-cell adhesion and fusion. Genomics 34: 413-417.
3. Yuan, R., et al. 1997. A role for the disintegrin domain of cyritestin, a sperm surface protein belonging to the ADAM family, in mouse sperm-egg plasma membrane adhesion and fusion. J. Cell Biol. 137: 105-112.
4. Cornwall, G.A., et al. 1997. ADAM7, a member of the ADAM (a disintegrin and metalloprotease) gene family is specifically expressed in the mouse anterior pituitary and epididymis. Endocrinology 138: 4262-4272.
5. Sagane, K., et al. 1998. Metalloproteinase-like, disintegrin-like, cysteine-rich proteins MDC2 and MDC3: novel human cellular disintegrins highly expressed in the brain. Biochem. J. 334: 93-98.
6. Sagane, K., et al. 1999. Cloning and chromosomal mapping of mouse ADAM11, ADAM22 and ADAM23. Gene 236: 79-86.
7. Cal, S., et al. 2000. ADAM 23/MDC3, a human disintegrin that promotes cell adhesion via interaction with the $\alpha v\beta 3$ integrin through an RGD-independent mechanism. Mol. Biol. Cell 11: 1457-1469.

CHROMOSOMAL LOCATION

Genetic locus: Adam6a (mouse) mapping to 12 F1.

PRODUCT

ADAM6A 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see ADAM6A shRNA Plasmid (m): sc-61949-SH and ADAM6A shRNA (m) Lentiviral Particles: sc-61949-V as alternate gene silencing products.

For independent verification of ADAM6A (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-61949A, sc-61949B and sc-61949C.

PROTOCOLS

See our web site at 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 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

ADAM6A siRNA (m) is recommended for the inhibition of ADAM6A 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ADAM6A gene expression knockdown using RT-PCR Primer: ADAM6A (m)-PR: sc-61949-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.