SANTA CRUZ BIOTECHNOLOGY, INC.

ADAM25 siRNA (m): sc-41421

BACKGROUND

The ADAM (a disintegrin and metalloprotease) protein family, which includes over 30 membrane-anchored, glycosylated, Zn^{2+} dependent proteases, plays a role in cell-cell and cell-matrix interface related processes, including fertilization, muscle fusion, secretion of TNFα (tumor necrosis factor α), and modulation of the neurogenic function of Notch and Delta. The ADAM proteins possess a signal-domain, a pro-domain, a metalloprotease domain, a disintegrin domain (Integrin ligand), a cysteine-rich region, an epidermal growth factor-like domain, a transmembrane domain and a cytoplasmic tail. ADAMs are expressed in a wide range of mammalian tissues and several are abundantly expressed in the male reproductive tract. Three testis-specific ADAM family members include ADAM24, ADAM25, and ADAM26, which are alternatively designated testase 1, testase 2, and testase 3, respectively. ADAM25 exists as two transcripts produced by different genes (α and β). ADAM24 is proteolytically processed on the sperm plasma membrane, and, therefore, may facilitate sperm penetration of the zona pellucida.

REFERENCES

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2. Stone, A.L., Kroeger, M. and Sang, Q.X. 1999. Structure-function analysis of the ADAM family of disintegrin-like and metalloproteinase-containing proteins (review). J. Protein Chem. 18: 447-465.
3. Zhu, G.Z., Lin, Y., Myles, D.G. and Primakoff, P. 1999. Identification of four novel ADAMs with potential roles in spermatogenesis and fertilization. Gene 234: 227-237.
4. Primakoff, P. and Myles, D.G. 2000. The ADAM gene family: surface proteins with adhesion and protease activity. Trends Genet. 16: 83-87.
5. Zhu, G.Z., Myles, D.G. and Primakoff, P. 2001. Testase 1 (ADAM24) a plasma membrane-anchored sperm protease implicated in sperm function during epididymal maturation or fertilization. J. Cell Sci. 114: 1787-1794.
6. Bolcun, E., Rzymski, T., Nayernia, K. and Engel, W. 2004. ADAM family genes testase 2α and 2β are chromosomally linked and simultaneously expressed in male germ cells. Mol. Reprod. Dev. 65: 19-22.

CHROMOSOMAL LOCATION

Genetic locus: Adam25 (mouse) mapping to 8 A4.

PRODUCT

ADAM25 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 ADAM25 shRNA Plasmid (m): sc-41421-SH and ADAM25 shRNA (m) Lentiviral Particles: sc-41421-V as alternate gene silencing products.

For independent verification of ADAM25 (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-41421A, sc-41421B and sc-41421C.

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

ADAM25 siRNA (m) is recommended for the inhibition of ADAM25 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 ADAM25 gene expression knockdown using RT-PCR Primer: ADAM25 (m)-PR: sc-41421-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.