SANTA CRUZ BIOTECHNOLOGY, INC.

ADAM20 siRNA (h): sc-60046

BACKGROUND

The ADAM (a disintegrin and metalloprotease) protein family, which includes more than 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 tumor necrosis factor (TNF) 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. The ADAM20 and ADAM21 genes map to human chromosome 14q24.2, and both are abundantly expressed in testis. Specifically, ADAM21, also designated ADAM31 in mouse, is expressed on four types of specialized epithelia: the cauda epididymis, the vas deferens, the convoluted tubules of the kidney and the parietal cells of the stomach.

REFERENCES

1. Wolfsberg, T.G., Primakoff, P., Myles, D.G. and White, J. M. 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. Stone, A.L., Kroeger, M. and Sang, Q.X. 1999. Structure-function analysis of the ADAM family of disintegrin-like and metalloproteinase-containing proteins. J. Protein Chem. 18: 447-465.
3. Poindexter, K., Nelson, N., DuBose, R.F., Black, R.A. and Cerretti, D.P. 1999. The identification of seven metalloproteinase-disintegrin (ADAM) genes from genomic libraries. Gene 237: 61-70.
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. Liu, L. and Smith, J.W. 2000. Identification of ADAM31: a protein expressed in Leydig cells and specialized epithelia. Endocrinology 141: 2033-2042.

CHROMOSOMAL LOCATION

Genetic locus: ADAM20 (human) mapping to 14q24.2.

PRODUCT

ADAM20 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 ADAM20 shRNA Plasmid (h): sc-60046-SH and ADAM20 shRNA (h) Lentiviral Particles: sc-60046-V as alternate gene silencing products.

For independent verification of ADAM20 (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-60046A, sc-60046B and sc-60046C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

ADAM20 siRNA (h) is recommended for the inhibition of ADAM20 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 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 ADAM20 gene expression knockdown using RT-PCR Primer: ADAM20 (h)-PR: sc-60046-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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