SANTA CRUZ BIOTECHNOLOGY, INC.

KAI 1 siRNA (m): sc-35733

BACKGROUND

The transmembrane 4 superfamily (TM4SF) is a family of leukocyte surface glycoproteins that presumably cross the cell membrane four times. These proteins may be involved in transmembrane signal transduction regulation of cell proliferation, differentiation and motility. Members of this family, which include CD9, CD37, CD53, CD63, CD82 and TAPA-1, share significant sequence homology and an extracellular N-glycosylated domain, implicating these proteins as metastasis suppressors. Only three members of this family have been correlated with metastasis: CD9, CD63 and CD82, also known as KAI 1. KAI 1 is evolutionarily conserved and expressed in a broad range of human tissues, but exhibits reduced expression in human cell lines derived from metastatic prostate tumors. It has been suggested that decreased KAI 1 expression may be involved in the malignant progression of prostate and perhaps other cancers.

REFERENCES

1. Horejsi, V., et al. 1991. Novel structurally distinct family of leucocyte surface glycoproteins including CD9, CD37, CD53 and CD63. FEBS Lett. 288: 1-4.
2. Carmo, A.M., et al. 1995. Association of the transmembrane 4 superfamily molecule D53 with a tyrosine phase activity. Eur. J. Immunol. 25: 2090-2095.
3. Tomlinson, M.G., et al. 1995. Characterization of mouse CD53: epitope mapping, cellular distribution and induction by T cell receptor engagement during repertoire selection. Eur. J. Immunol. 25: 2201-2205.
4. Dong, J.T., et al. 1995. KAI 1, a metastasis suppressor gene for prostate cancer on human chromosome 11p11.2. Science 268: 884-886.
5. Shaw, A.R., et al. 1995. Ectopic expression of human and feline CD9 in a human B cell line confers β1 integrin-dependent motility on fibronectin and laminin substrates and enhanced tyrosine phosphorylation. J. Biol. Chem. 270: 24092-24099.
6. Radford, K.J., et al. 1995. Suppression of human melanoma cell growth and metastasis by the melanoma-associated antigen CD63 (ME491). Int. J. Cancer 62: 631-635.

CHROMOSOMAL LOCATION

Genetic locus: Cd82 (mouse) mapping to 2 E1.

PRODUCT

KAI 1 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 KAI 1 shRNA Plasmid (m): sc-35733-SH and KAI 1 shRNA (m) Lentiviral Particles: sc-35733-V as alternate gene silencing products.

For independent verification of KAI 1 (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-35733A, sc-35733B and sc-35733C.

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

KAI 1 siRNA (m) is recommended for the inhibition of KAI 1 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 KAI 1 gene expression knockdown using RT-PCR Primer: KAI 1 (m)-PR: sc-35733-PR (20 µl, 562 bp). 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.