SANTA CRUZ BIOTECHNOLOGY, INC.

KRAP siRNA (h): sc-94670

BACKGROUND

Mammalian sperm flagellum contain two cytoskeletal structures associated with the the axoneme: the outer dense fibers and the fibrous sheath. The outer dense fibers surround the axoneme in the midpiece and principal piece, whereas the fibrous sheath surrounds outer dense fibers of the tail of the principal piece. KRAP (ki-Ras-induced Actin-interacting protein), also known as CS1, CS-1, SPAG13 or SSFA2 (sperm specific antigen 2), is a 1,259 amino acid cytoplasmic protein strongly expressed in pancreas and testis. Localized to the plasma membrane, KRAP may be in involved in the regulation of filamentous Actin and extracellular signaling. It is also suggested that KRAP may particpate in structural integrity or signal transductions in human cancers. KRAP deficient mice have enhanced metabolic rate, decreased adiposity, improved glucose tolerance, hypoinsulinemia and hypoleptinemia, which suggest KRAP may be a novel regulator in body energy homeostasis and a therapeutic target for obesity and related diseases.

REFERENCES

1. Javed, A.A., et al. 1992. Human cleavage signal-1 protein; cDNA cloning, transcription and immunological analysis. Gene 112: 205-211.
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3. Tarnasky, H., et al. 1998. A novel testis-specific gene, SPAG4, whose product interacts specifically with outer dense fiber protein ODF27, maps to human chromosome 20q11.2. Cytogenet. Cell Genet. 81: 65-67.
4. Inokuchi, J., et al. 2004. Deregulated expression of KRAP, a novel gene encoding Actin-interacting protein, in human colon cancer cells. J. Hum. Genet. 49: 46-52.
5. Fujimoto, T., et al. 2007. Analysis of KRAP expression and localization, and genes regulated by KRAP in a human colon cancer cell line. J. Hum. Genet. 52: 978-984.
6. Fujimoto, T., et al. 2009. Altered energy homeostasis and resistance to diet-induced obesity in KRAP-deficient mice. PLoS ONE 4: e4240.
7. SWISS-PROT/TrEMBL (P28290). World Wide Web URL: http://www.expasy.ch/sprot/sprot-top.html

CHROMOSOMAL LOCATION

Genetic locus: SSFA2 (human) mapping to 2q31.3.

PRODUCT

KRAP 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 KRAP shRNA Plasmid (h): sc-94670-SH and KRAP shRNA (h) Lentiviral Particles: sc-94670-V as alternate gene silencing products.

For independent verification of KRAP (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-94670A, sc-94670B and sc-94670C.

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

KRAP siRNA (h) is recommended for the inhibition of KRAP 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 KRAP gene expression knockdown using RT-PCR Primer: KRAP (h)-PR: sc-94670-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.