SANTA CRUZ BIOTECHNOLOGY, INC.

JK-1 siRNA (h): sc-92031

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The Power to Question

BACKGROUND

Esophageal squamous cell carcinoma (ESCC) is cancer of the flat cells lining the esophagus, and is currently the ninth most frequent cancer in the world. While environmental risk factors, such as alcohol drinking and cigarette smoking, increase chances of ESCC, several genes are believed to be involved in the origin and/or progression of ESCC. The proteins encoded by these genes include p53, DCC, DEC1, DLEC1, p16 and TGFβ RII. JK-1, also known as FAM134B, is a 497 amino acid multi-pass membrane protein. JK-1 overexpression in ESCC cell lines causes increased cell growth rate, indicating a possible role in ESCC progression. JK-1 is expressed as two isoforms produced by alternative splicing.

REFERENCES

1. Jiang, W., et al. 1992. Amplification and expression of the human cyclin D gene in esophageal cancer. Cancer Res. 52: 2980-2983.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 133239. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Tang, W.K., et al. 2007. Oncogenic properties of a novel gene JK-1 located in chromosome 5p and its overexpression in human esophageal squamous cell carcinoma. Int. J. Mol. Med. 19: 915-923.
4. Hoshino, I., et al. 2008. Role of histone deacetylase inhibitor in adenovirus-mediated p53 gene therapy in esophageal cancer. Anticancer Res. 28: 665-671.
5. Cummings, L.C., et al. 2008. Descriptive epidemiology of esophageal carcinoma in the Ohio Cancer Registry. Cancer Detect. Prev. 32: 87-92.
6. Lyronis, I.D., et al. 2008. K-Ras mutation, HPV infection and smoking or alcohol abuse positively correlate with esophageal squamous carcinoma. Pathol. Oncol. Res. 14: 267-273.
7. Fan, Y.J., et al. 2008. Esophageal and aastric cardia cancers on 4,238 Chinese patients residing in municipal and rural regions: a histopathological comparison during 24-year period. World J. Surg. 32: 1980-1988.

CHROMOSOMAL LOCATION

Genetic locus: FAM134B (human) mapping to 5p15.1.

PRODUCT

JK-1 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 JK-1 shRNA Plasmid (h): sc-92031-SH and JK-1 shRNA (h) Lentiviral Particles: sc-92031-V as alternate gene silencing products.

For independent verification of JK-1 (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-92031A, sc-92031B and sc-92031C.

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

JK-1 siRNA (h) is recommended for the inhibition of JK-1 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 JK-1 gene expression knockdown using RT-PCR Primer: JK-1 (h)-PR: sc-92031-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kasem, K., et al. 2014. JK-1 (FAM134B) represses cell migration in colon cancer: a functional study of a novel gene. Exp. Mol. Pathol. 97: 99-104.

PROTOCOLS

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