SANTA CRUZ BIOTECHNOLOGY, INC.

HCCR-1 siRNA (h): sc-95839

BACKGROUND

HCCR-1 (human cervical cancer oncogene 1), also known as HCCR-2 or LETMD1, is a 360 amino acid single-pass membrane protein that is expressed in the kidney, liver, skeletal muscle, heart and brain. It is suggested that HCCR-1 may be involved in tumorigenesis and may function as a negative regulator of the p53 tumor suppressor. Overexpression of HCCR-1 may cause mitochondrial dysfunction that can lead to UVC or staurosporine-induced apoptosis resistance and progression of tumor formation. HCCR-1 is considered a candidate biomarker for breast cancer. Various human tumors, including leukemia, lymphoma and carcinomas of the breast, kidney, ovary, stomach, colon and uterine cervix, consist of high levels of HCCR-1. Six isoforms exist due to alternative splicing events.

REFERENCES

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2. Ko, J., et al. 2004. Transgenic mouse model for breast cancer: induction of breast cancer in novel oncogene HCCR-2 transgenic mice. Oncogene 23: 1950-1953.
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5. Cho, G.W., et al. 2007. HCCR-1, a novel oncogene, encodes a mitochondrial outer membrane protein and suppresses the UVC-induced apoptosis. BMC Cell Biol. 8: 50.
6. Yang, Y., et al. 2007. Overexpression of HCCR in hepatocellular carcinoma cells and its clinical significance. Zhonghua Gan Zang Bing Za Zhi 15: 223-224.
7. Ha, S.A., et al. 2008. HCCRBP-1 directly interacting with HCCR-1 induces tumorigenesis through p53 stabilization. Int. J. Cancer 122: 501-508.
8. Ha, S.A., et al. 2009. Oncoprotein HCCR-1 expression in breast cancer is well correlated with known breast cancer prognostic factors including the HER2 overexpression, p53 mutation, and ER/PR status. BMC Cancer 9: 51.
9. Ha, S.A., et al. 2009. Dual action of apolipoprotein E-interacting HCCR-1 oncoprotein and its implication for breast cancer and obesity. J. Cell. Mol. Med. 13: 3868-3875.

CHROMOSOMAL LOCATION

Genetic locus: LETMD1 (human) mapping to 12q13.12.

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.

PRODUCT

HCCR-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 HCCR-1 shRNA Plasmid (h): sc-95839-SH and HCCR-1 shRNA (h) Lentiviral Particles: sc-95839-V as alternate gene silencing products.

For independent verification of HCCR-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-95839A, sc-95839B and sc-95839C.

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

HCCR-1 siRNA (h) is recommended for the inhibition of HCCR-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 HCCR-1 gene expression knockdown using RT-PCR Primer: HCCR-1 (h)-PR: sc-95839-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.