SANTA CRUZ BIOTECHNOLOGY, INC.

CTHRC1 siRNA (m): sc-77044

BACKGROUND

CTHRC1 (collagen triple helix repeat containing 1) is a 243 amino acid secreted protein that localizes to the extracellular matrix and contains one collagen-like domain. Expressed as two alternatively spliced isoforms, the first of which is expressed in calcified atherosclerotic plaque and chondrocyte-like cells, CTHRC1 is thought to function as a negative regulator of collagen matrix deposition and may also play a role in the stabilization of ligand-receptor interactions in the Wnt pathway. CTHRC1 is widely present in a variety of cancers, including melanoma and breast carcinoma, and may participate in cancer cell migration and cancer tissue invasion and metastasis. The gene encoding CTHRC1 maps to human chromosome 8q22.3, which consists of nearly 146 million base pairs, houses more than 800 genes and is associated with a variety of diseases and malignancies.

REFERENCES

1. Pyagay, P., et al. 2005. Collagen triple helix repeat containing 1, a novel secreted protein in injured and diseased arteries, inhibits collagen expression and promotes cell migration. Circ. Res. 96: 261-268.
2. Tang, L., et al. 2006. Aberrant expression of collagen triple helix repeat containing 1 in human solid cancers. Clin. Cancer Res. 12: 3716-3722.
3. LeClair, R.J., et al. 2007. CTHRC1 is a novel inhibitor of transforming growth factor-β signaling and neointimal lesion formation. Circ. Res. 100: 826-833.
4. LeClair, R., et al. 2007. The role of collagen triple helix repeat containing 1 in injured arteries, collagen expression, and transforming growth factor β signaling. Trends Cardiovasc. Med. 17: 202-205.
5. Leclair, R.J., et al. 2008. Intracellular localization of CTHRC1 characterizes differentiated smooth muscle. Arterioscler. Thromb. Vasc. Biol. 28: 1332-1338.
6. Yamamoto, S., et al. 2008. CTHRC1 selectively activates the planar cell polarity pathway of Wnt signaling by stabilizing the Wnt-receptor complex. Dev. Cell 15: 23-36.

CHROMOSOMAL LOCATION

Genetic locus: Cthrc1 (mouse) mapping to 15 B3.1.

PRODUCT

CTHRC1 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 CTHRC1 shRNA Plasmid (m): sc-77044-SH and CTHRC1 shRNA (m) Lentiviral Particles: sc-77044-V as alternate gene silencing products.

For independent verification of CTHRC1 (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-77044A, sc-77044B and sc-77044C.

PROTOCOLS

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

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

CTHRC1 siRNA (m) is recommended for the inhibition of CTHRC1 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 CTHRC1 gene expression knockdown using RT-PCR Primer: CTHRC1 (m)-PR: sc-77044-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.