SANTA CRUZ BIOTECHNOLOGY, INC.

WISP-1 siRNA (m): sc-39336

BACKGROUND

Wnt-induced secreted protein (WISP)-1, WISP-2 and WISP-3 are members of the CCN family of growth factors, which include connective tissue growth factor (CTGF) and Cyr61. WISP-1, WISP-2 and WISP-3 share significant sequence similarity, including four conserved cysteine-rich domains, and they are believed to function as dimers in their active forms. WISP-1 expression is observed in various tissues including adult heart, kidney and spleen, while WISP-2 expression predominates in skeletal muscle, colon and ovary. Both WISP-1 and WISP-2 are upregulated in cells transformed with the proto-oncogene Wnt-1, and they are also more highly expressed in human colon tumors, suggesting that these proteins may participate in tumor development. WISP-3 is involved in normal postnatal skeletal growth, and it is also implicated in the development of the autosomal recessive skeletal disorder progressive pseudorheumatoid dysplasia, which affects cartilage homeostasis by disrupting the growth of chondrocyte and normal cell columnar organization.

REFERENCES

1. Shimizu, H., et al. 1997. Transformation by Wnt family proteins correlates with regulation of β-catenin. Cell Growth Differ. 8: 1349-1358.
2. el-Shanti, H.E., et al. 1997. Progressive pseudorheumatoid dysplasia: report of a family and review. J. Med. Genet. 34: 559-563.
3. Pennica, D., et al. 1998. WISP genes are members of the connective tissue growth factor family that are upregulated in Wnt-1-transformed cells and aberrantly expressed in human colon tumors. Proc. Natl. Acad. Sci. USA 95: 14717-14722.
4. Hurvitz, J.R., et al. 1999. Mutations in the CCN gene family member WISP3 cause progressive pseudorheumatoid dysplasia. Nat. Genet. 23: 94-98.
5. Babic, A.M., et al. 1999. Fisp12/mouse connective tissue growth factor mediates endothelial cell adhesion and migration through Integrin $\alpha_v\beta_3$, promotes endothelial cell survival, and induces angiogenesis *in vivo*. Mol. Cell. Biol. 19: 2958-2966.

CHROMOSOMAL LOCATION

Genetic locus: Wisp1 (mouse) mapping to 15 D2.

PRODUCT

WISP-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 WISP-1 shRNA Plasmid (m): sc-39336-SH and WISP-1 shRNA (m) Lentiviral Particles: sc-39336-V as alternate gene silencing products.

For independent verification of WISP-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-39336A, sc-39336B and sc-39336C.

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

WISP-1 siRNA (m) is recommended for the inhibition of WISP-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 WISP-1 gene expression knockdown using RT-PCR Primer: WISP-1 (m)-PR: sc-39336-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.