SANTA CRUZ BIOTECHNOLOGY, INC.

Wnt-10b siRNA (m): sc-37186

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Products of the highly conserved Wnt gene family play key roles in regulating cellular growth and differentiation. The prototype member of the Wnt gene family, Wnt-1, is a cysteine-rich secreted glycoprotein that asociates with cell membranes and likely functions as a key regulator of cellular adhesion. β-catenin, a cadherin-binding cellular adhesion protein that also binds to the tumor suppressor gene APC, has been identified as a downstream target of a signal transduction pathway mediated by Wnt-1. Wnt-1 is essential for normal development of the embryonic nervous system and its expression is normally limited to the embryonic neural tube and adult spermatids. Wnt family members have been shown to interact with Sonic hedgehog (Shh) *in vivo* to induce myogenesis in somitic tissue. Wnt-10b has been implicated along with FGF-3 in the development of mouse mammary tumor virus induced mouse mammary carcinomas.

REFERENCES

1. Nusse, R. and Varmus, H.E. 1992. Wnt genes. Cell 69: 1073-1087.
2. Hinck, L., et al. 1994. β-catenin: a common target for the regulation of cell adhesion by Wnt-1 and Src signaling pathways. Trends Biochem. Sci. 19: 538-542.
3. Wong, G.T., et al. 1994. Differential transformation of mammary epithelial cells by Wnt genes. Mol. Cell. Biol. 14: 6278-6286.
4. Burrus, L.W. and McMahon, A.P. 1995. Biochemical analysis of murine Wnt proteins reveals both shared and distinct properties. Exp. Cell Res. 220: 363-373.
5. Munsterberg, A.E., et al. 1995. Combinatorial signaling by Sonic hedgehog and Wnt family members induces myogenic bHLH gene expression in the somite. Genes Dev. 9: 2911-2922.
6. Schryver, B., et al. 1996. Properties of Wnt-1 protein that enable cell surface association. Oncogene 13: 333-342.
7. Papkoff, J. 1997. Regulation of complexed and free catenin pools by distinct mechanisms. J. Biol. Chem. 272: 4536-4543.

CHROMOSOMAL LOCATION

Genetic locus: Wnt10b (mouse) mapping to 15 F1.

PRODUCT

Wnt-10b 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 Wnt-10b shRNA Plasmid (m): sc-37186-SH and Wnt-10b shRNA (m) Lentiviral Particles: sc-37186-V as alternate gene silencing products.

For independent verification of Wnt-10b (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-37186A, sc-37186B and sc-37186C.

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

Wnt-10b siRNA (m) is recommended for the inhibition of Wnt-10b 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 Wnt-10b gene expression knockdown using RT-PCR Primer: Wnt-10b (m)-PR: sc-37186-PR (20 µl, 403 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cheng, S.L., et al. 2008. Msx-2 exerts bone anabolism via canonical Wnt signaling. J. Biol. Chem. 283: 20505-20522.
2. Ahluwalia, A., et al. 2020. Mechanisms by which membrane and nuclear ERα inhibit adipogenesis in cells isolated from female mice. Endocrinology. 161: bqaa175.

PROTOCOLS

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