SANTA CRUZ BIOTECHNOLOGY, INC.

Wnt-11 siRNA (m): sc-41121

BACKGROUND

The Wnt genes belong to a family of protooncogenes with at least 13 known members that are expressed in species ranging from *Drosophila* to man. The name Wnt denotes the relationship of this family to the *Drosophila* segment polarity gene "wingless" and to its vertebrate ortholog, Int-1, a mouse protooncogene. Transcription of Wnt family genes appears to be developmentally regulated in a precise temporal and spatial manner. The Wnt genes encode cysteine-rich putative glycoproteins which have features typical of secreted growth factors. Wnt-11 is expressed in the tips of ureteric buds and in the perichondrium, a stem cell-like layer that surrounds the future bones and directs their growth and regeneration. Wnt-11 activity is required for cells to undergo correct convergent extension movements during gastrulation. Human Wnt-11 is also expressed in the lung mesenchyme, the urorectal septum, the urogenital folds, the labioscrotal swellings and the cortex of the adrenal gland. Unlike other Wnt family members, Wnt-11 is not expressed in the neuroepithelium of the central nervous system. Wnt-11, along with Wnt-8c, is expressed in the posterior region of the chick embryo in the caudal paraxial mesoderm that underlies the prospective caudal neural plate. The gene which encodes Wnt-11 maps to human chromosome 11q13.5.

REFERENCES

1. Gavin, B.J., et al. 1990. Expression of multiple novel Wnt-1/Int-1-related genes during fetal and adult mouse development. Genes Dev. 4: 2319-2332.
2. Muhr, J., et al. 1997. Assignment of early caudal identity to neural plate cells by a signal from caudal paraxial mesoderm. Neuron 19: 487-502.
3. Lako, M., et al. 1998. Isolation, characterisation and embryonic expression of Wnt-11, a gene which maps to 11q13.5 and has possible roles in the development of skeleton, kidney and lung. Gene 219: 101-110.
4. Heisenberg, C.P., et al. 2000. Silberblick/Wnt-11 mediates convergent extension movements during zebrafish gastrulation. Nature 405: 76-81.
5. Nordstrom, U., et al. 2002. Progressive induction of caudal neural character by graded Wnt signaling. Nat. Neurosci. 5: 525-532.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 164975. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: Wnt11 (mouse) mapping to 7 E2.

PRODUCT

Wnt-11 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-11 shRNA Plasmid (m): sc-41121-SH and Wnt-11 shRNA (m) Lentiviral Particles: sc-41121-V as alternate gene silencing products.

For independent verification of Wnt-11 (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-41121A, sc-41121B and sc-41121C.

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-11 siRNA (m) is recommended for the inhibition of Wnt-11 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.

GENE EXPRESSION MONITORING

Wnt-11 (C-8): sc-365032 is recommended as a control antibody for monitoring of Wnt-11 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Wnt-11 gene expression knockdown using RT-PCR Primer: Wnt-11 (m)-PR: sc-41121-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.

PROTOCOLS

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