



Wnt-2b siRNA (m): sc-155356

BACKGROUND

The Wnt family of protooncogenes consists of at least 13 known members which encode secreted signaling proteins that are involved in oncogenesis and several other developmental processes, such as regulation of cell fate and embryogenesis. Wnt-2b (wingless-type MMTV integration site family, member 2B), also known as WNT13 or XWNT2, is a 391 amino acid protein that is secreted into the extracellular matrix and belongs to the Wnt family. Expressed as two isoforms, the first of which is present primarily in adult tissues and the second of which is present primarily in fetal tissues, Wnt-2b functions as a ligand for transmembrane receptor proteins and is thought to play a role in tissue differentiation and development. Wnt-2b is expressed in a variety of cancer cell lines, suggesting a role in tumorigenesis.

REFERENCES

1. Wolda, S.L., et al. 1992. Cloning and developmental expression in *Xenopus laevis* of seven additional members of the Wnt family. *Oncogene* 7: 1941-1947.
2. Smolich, B.D., et al. 1993. Wnt family proteins are secreted and associated with the cell surface. *Mol. Biol. Cell* 4: 1267-1275.
3. Katoh, M., et al. 1996. Cloning, expression and chromosomal localization of Wnt-13, a novel member of the Wnt gene family. *Oncogene* 13: 873-876.
4. Katoh, M., et al. 2000. Alternative splicing of the WNT-2B/WNT-13 gene. *Biochem. Biophys. Res. Commun.* 275: 209-216.
5. Ricken, A., et al. 2002. Wnt signaling in the ovary: identification and compartmentalized expression of wnt-2, wnt-2b, and frizzled-4 mRNAs. *Endocrinology* 143: 2741-2749.

CHROMOSOMAL LOCATION

Genetic locus: Wnt2b (mouse) mapping to 3 F2.2.

PRODUCT

Wnt-2b 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Wnt-2b shRNA Plasmid (m): sc-155356-SH and Wnt-2b shRNA (m) Lentiviral Particles: sc-155356-V as alternate gene silencing products.

For independent verification of Wnt-2b (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-155356A, sc-155356B and sc-155356C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Wnt-2b siRNA (m) is recommended for the inhibition of Wnt-2b 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 μ M in 66 μ l. 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-2b (C-2): sc-166502 is recommended as a control antibody for monitoring of Wnt-2b 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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-2b gene expression knockdown using RT-PCR Primer: Wnt-2b (m)-PR: sc-155356-PR (20 μ l, 599 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chandrasekaran, P., et al. 2013. Differential effects of β -catenin and NF κ B interplay in the regulation of cell proliferation, inflammation and tumorigenesis in response to bacterial infection. *PLoS ONE* 8: e79432.

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.