

# frizzled-2 siRNA (m): sc-39980

## BACKGROUND

The frizzled gene, originally identified in *Drosophila melanogaster*, is involved in the development of tissue polarity. The mammalian homolog of frizzled as well as several secreted mammalian frizzled-related proteins (FRPs) have been described. The frizzled proteins contain seven transmembrane domains, a cysteine-rich domain in the extracellular region and a carboxy terminal Ser/Thr-xxx-Val motif. They function as receptors for Wnt and are generally coupled to G proteins. Expression of frizzled-2 can be observed in the fetal kidney and lung and in the adult ovary and colon. The Wnt/cGMP/Ca<sup>2+</sup> pathway is mediated by frizzled-2. It binds Wnt proteins and signals by activating the release of stored calcium. Expression of frizzled-2 is regulated by Angiotensin II. Activated frizzled-2 suppresses the activity of protein kinase G, and activates NFAT-dependent transcription, the phosphatidylinositol pathway and calcium sensitive enzymes.

## REFERENCES

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8. Harris, K.E., et al. 2007. Different Wnt signals act through the frizzled and RYK receptors during *Drosophila* salivary gland migration. *Development* 134: 2017-2025.
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## CHROMOSOMAL LOCATION

Genetic locus: Fzd2 (mouse) mapping to 11 E1.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

frizzled-2 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see frizzled-2 shRNA Plasmid (m): sc-39980-SH and frizzled-2 shRNA (m) Lentiviral Particles: sc-39980-V as alternate gene silencing products.

For independent verification of frizzled-2 (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-39980A, sc-39980B and sc-39980C.

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

## APPLICATIONS

frizzled-2 siRNA (m) is recommended for the inhibition of frizzled-2 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  $\mu$ M in 66  $\mu$ 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

frizzled-2 (K19R): sc-74019 is recommended as a control antibody for monitoring of frizzled-2 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).

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor frizzled-2 gene expression knockdown using RT-PCR Primer: frizzled-2 (m)-PR: sc-39980-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.