

# frizzled-2 (C-10): sc-68327

## 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

- Zhao, Z., et al. 1995. A human homologue of the *Drosophila* polarity gene frizzled has been identified and mapped to 17q21.1. *Genomics* 27: 370-373.
- Sagara, N., et al. 1998. Molecular cloning, differential expression, and chromosomal localization of human frizzled-1, frizzled-2, and frizzled-7. *Biochem. Biophys. Res. Commun.* 252: 117-122.
- Malbon, C.C., et al. 2004. Frizzleds: new members of the superfamily of G-protein-coupled receptors. *Front. Biosci.* 9: 1048-1058.
- Castoldi, G., et al. 2005. Angiotensin II modulates frizzled-2 receptor expression in rat vascular smooth muscle cells. *Clin. Sci.* 108: 523-530.
- Rodriguez, J., et al. 2005. SFRP1 regulates the growth of retinal ganglion cell axons through the Fz2 receptor. *Nat. Neurosci.* 8: 1301-1309.
- Jiang, F., et al. 2006. Gene expression profile of quiescent and activated rat hepatic stellate cells implicates Wnt signaling pathway in activation. *J. Hepatol.* 45: 401-409.
- Ma, L., et al. 2006. Suppression of cyclic GMP-dependent protein kinase is essential to the Wnt/cGMP/Ca<sup>2+</sup> pathway. *J. Biol. Chem.* 281: 30990-31001.

## CHROMOSOMAL LOCATION

Genetic locus: FZD2 (human) mapping to 17q21.31; Fzd2 (mouse) mapping to 11 E1.

## SOURCE

frizzled-2 (C-10) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal extracellular domain of frizzled-2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-68327 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

frizzled-2 (C-10) is recommended for detection of frizzled-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

frizzled-2 (C-10) is also recommended for detection of frizzled-2 in additional species, including canine and porcine.

Suitable for use as control antibody for frizzled-2 siRNA (h): sc-39979, frizzled-2 siRNA (m): sc-39980, frizzled-2 shRNA Plasmid (h): sc-39979-SH, frizzled-2 shRNA Plasmid (m): sc-39980-SH, frizzled-2 shRNA (h) Lentiviral Particles: sc-39979-V and frizzled-2 shRNA (m) Lentiviral Particles: sc-39980-V.

Molecular Weight of frizzled-2: 65 kDa.

Positive Controls: mouse skeletal muscle extract: sc-364250.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## SELECT PRODUCT CITATIONS

- Kasaai, B., et al. 2012. Spatial and temporal localization of WNT signaling proteins in a mouse model of distraction osteogenesis. *J. Histochem. Cytochem.* 60: 219-228.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## 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) or our catalog for detailed protocols and support products.


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Try **frizzled-2 (K19R): sc-74019**, our highly recommended monoclonal alternative to frizzled-2 (C-10).