

# frizzled-2 (K19R): sc-74019

## 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

1. 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.
2. 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.
3. Malbon, C.C., et al. 2004. Frizzleds: new members of the superfamily of G protein-coupled receptors. *Front. Biosci.* 9: 1048-1058.
4. Castoldi, G., et al. 2005. Angiotensin II modulates frizzled-2 receptor expression in rat vascular smooth muscle cells. *Clin. Sci.* 108: 523-530.
5. Rodriguez, J., et al. 2005. SFRP1 regulates the growth of retinal ganglion cell axons through the Fz2 receptor. *Nat. Neurosci.* 8: 1301-1309.
6. 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.
7. 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.
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.
9. Hurson, C.J., et al. 2007. Gene expression analysis in human osteoblasts exposed to dexamethasone identifies altered developmental pathways as putative drivers of osteoporosis. *BMC Musculoskelet. Disord.* 8: 12.

## CHROMOSOMAL LOCATION

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

## SOURCE

frizzled-2 (K19R) is a rat monoclonal antibody raised against the extracellular domain of frizzled-2 of mouse origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer.

## APPLICATIONS

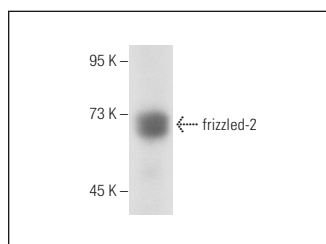
frizzled-2 (K19R) is recommended for detection of frizzled-2 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)]; non cross-reactive with mouse frizzled-1, -3, -4, -5, -6, -7, or -8.

Suitable for use as control antibody for frizzled-2 siRNA (m): sc-39980, frizzled-2 shRNA Plasmid (m): sc-39980-SH 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.

## DATA



frizzled-2 (K19R): sc-74019. Western blot analysis of frizzled-2 expression in mouse skeletal muscle tissue extract.

## SELECT PRODUCT CITATIONS

1. Yang, L., et al. 2020. Induction of DNMT3B by PGE2 and IL6 at distant metastatic sites promotes epigenetic modification and breast cancer colonization. *Cancer Res.* 80: 2612-2627.
2. Liu, S.G., et al. 2020. Iridin inhibits Wnt/β-catenin signal pathway via promoter demethylation of WIF-1. *BMC Complement. Med. Ther.* 20: 250.
3. Rogan, M.R., et al. 2021. *Ehrlichia chaffeensis* TRP120 is a Wnt ligand mimetic that interacts with Wnt receptors and contains a novel repetitive short linear motif that activates Wnt signaling. *mSphere* 6: e00216-21.

## 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) for detailed protocols and support products.