SANTA CRUZ BIOTECHNOLOGY, INC.

frizzled (H-300): sc-9169

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. The FRPs are involved in the Wnt signaling pathway by regulating the intracellular levels of β-catenin.

REFERENCES

1. Wang, Y., et al. 1996. A large family of putative transmembrane receptors homologous to the product of the *Drosophila* tissue polarity gene frizzled. J. Biol. Chem. 271: 4468-4476.
2. Yang-Snyder, J., et al. 1996. A frizzled homolog functions in a vertebrate Wnt signaling pathway. Curr. Biol. 6: 1302-1306.
3. Rattner, A., et al. 1997. A family of secreted proteins contains homology to the cysteine-rich ligand-binding domain of frizzled receptors. Proc. Natl. Acad. Sci. USA 94: 2859-2863.
4. Finch, P.W., et al. 1997. Purification and molecular cloning of a secreted, frizzled-related antagonist of Wnt action. Proc. Natl. Acad. Sci. USA 94: 6770-6775.
5. Melkonyan, H.S., et al. 1997. SARPs: a family of secreted apoptosis-related proteins. Proc. Natl. Acad. Sci. USA 94: 13636-13641.
6. Chang, J.T., et al. 1998. Cloning and characterization of a secreted frizzled-related protein that is expressed by the retinal pigment epithelium. Hum. Mol. Genet. 8: 575-583.
7. Leimeister, C., et al. 1998. Developmental expression patterns of mouse sFRP genes encoding members of the secreted frizzled related protein family. Mech. Dev. 75: 29-42.
8. 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.

SOURCE

frizzled (H-300) is a rabbit polyclonal antibody raised against amino acids 301-400 of frizzled 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.

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.

APPLICATIONS

frizzled (H-300) is recommended for detection of frizzled proteins 1-10 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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 (H-300) is also recommended for detection of frizzled proteins 1-10 in additional species, including equine, canine, bovine, porcine and avian.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Caricasole, A., et al. 2003. Functional characterization of Wnt-7a signaling in PC-12 cells: interaction with a FZD5 x LRP6 receptor complex and modulation by Dickkopf proteins. J. Biol. Chem. 278: 37024-37031.
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3. Tagliafico, E., et al. 2004. TGFβ/BMP activate the smooth muscle/bone differentiation programs in mesoangioblasts. J. Cell Sci. 117: 4377-4388.
4. Solanas, G., et al. 2004. β-catenin and plakoglobin N- and C-tails determine ligand specificity. J. Biol. Chem. 279: 49849-49856.
5. Liu, X., et al. 2005. Rapid, Wnt-induced changes in GSK-3β associations that regulate β-catenin stabilization are mediated by G_α proteins. Curr. Biol. 15: 1989-1997.
6. Bachmann, I.M., et al. 2005. Importance of P-cadherin, β-catenin, and Wnt-5a/frizzled for progression of melanocytic tumors and prognosis in cutaneous melanoma. Clin. Cancer Res. 11: 8606-8614.
7. Marion, V., et al. 2009. Transient ciliogenesis involving Bardet-Biedl syndrome proteins is a fundamental characteristic of adipogenic differentiation. Proc. Natl. Acad. Sci. USA 106: 1820-1825.

PROTOCOLS

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