SANTA CRUZ BIOTECHNOLOGY, INC.

FRP-2 (H-140): sc-13940

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The frizzled gene, originally identified in *Drosophila melanogaster*, was shown to be involved in the development of tissue polarity. The mammalian homolog of frizzled, as well as several secreted, mammalian, frizzled-related proteins such as FRP-1 (also designated SARP2), FRP-2 (also designated SARP1), FRP-3, FRP-4 and SARP3 (also designated FRP-5), have been identified. The frizzled proteins contain seven transmembrane domains and a cysteine-rich domain in the extra carboxy-terminal Ser/Thr-xxx-Val motif, and they function as receptors for Wnt. The frizzled-1 gene maps to human chromosome 7q21 and is expressed in adult heart, placenta, lung, kidney, pancreas, prostate and ovary, as well as in fetal lung and kidney. Frizzled-2 is expressed in adult heart and fetal brain, lung and kidney. The frizzled-related proteins FRP-1, FRP-2, FRP-3, FRP-4 and SARP3 are secreted proteins that contain regions of homology to the cysteine-rich, ligand-binding domain of frizzled and a conserved, hydrophilic carboxy-terminus. The gene encoding human SARP3 maps to chromosome 4q31.3 and is expressed in retinal pigment epithelium (RPE) and pancreas, while expression of FRP-1, 2 and 4 is high in developing tissues. The FRPs/SARPs are involved in the Wnt signaling pathway by regulating the intracellular levels of β-catenin.

CHROMOSOMAL LOCATION

Genetic locus: SFRP2 (human) mapping to 4q31.3; Sfrp2 (mouse) mapping to 3 E3.

SOURCE

FRP-2 (H-140) is a rabbit polyclonal antibody raised against amino acids 156-295 of FRP-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.

APPLICATIONS

FRP-2 (H-140) is recommended for detection of FRP-2 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). FRP-2 (H-140) is also recommended for detection of FRP-2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for FRP-2 siRNA (h): sc-40000, FRP-2 siRNA (m): sc-40001, FRP-2 shRNA Plasmid (h): sc-40000-SH, FRP-2 shRNA Plasmid (m): sc-40001-SH, FRP-2 shRNA (h) Lentiviral Particles: sc-40000-V and FRP-2 shRNA (m) Lentiviral Particles: sc-40001-V.

Molecular Weight of FRP-2: 37 kDa.

Positive Controls: COLO 320DM cell lysate: sc-2226, MCF7 whole cell lysate: sc-2206 or mouse eye extract: sc-364241.

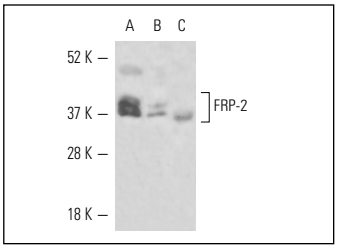
RESEARCH USE

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

STORAGE

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

DATA



FRP-2 (H-140): sc-13940. Western blot analysis of FRP-2 expression in COLO 320DM (**A**) and MCF7 (**B**) whole cell lysates and mouse eye tissue extract (**C**).

SELECT PRODUCT CITATIONS

1. Rhee, C.S., et al. 2002. Wnt and frizzled receptors as potential targets for immunotherapy in head and neck squamous cell carcinomas. Oncogene 21: 6598-6605.
2. Lee, J.L., et al. 2004. Autocrine/paracrine secreted frizzled-related protein 2 induces cellular resistance to apoptosis: a possible mechanism of mammary tumorigenesis. J. Biol. Chem. 279: 14602-14609.
3. Oshima, T., et al. 2005. Myeloma cells suppress bone formation by secreting a soluble Wnt inhibitor, sFRP-2. Blood 106: 3160-3165.
4. Osafune, K., et al. 2006. Identification of multipotent progenitors in the embryonic mouse kidney by a novel colony-forming assay. Development 133: 151-161.
5. Gehmert, S., et al. 2008. The anti-apoptotic effect of IGF-I on tissue resident stem cells is mediated via PI3-kinase dependent secreted frizzled related protein 2 (sFRP-2) release. Biochem. Biophys. Res. Commun. 371: 752-755.
6. Courtwright, A., et al. 2009. Secreted frizzle-related protein 2 stimulates angiogenesis via a calcineurin/NFAT signaling pathway. Cancer Res. 69: 4621-4628.
7. Siamakpour-Reihani, S., et al. 2011. The role of calcineurin/NFAT in SFRP2 induced angiogenesis-a rationale for breast cancer treatment with the calcineurin inhibitor tacrolimus. PLoS ONE 6: e20412.
8. Gustafson, B. and Smith, U. 2012. The WNT inhibitor Dickkopf 1 and bone morphogenetic protein 4 rescue adipogenesis in hypertrophic obesity in humans. Diabetes 61: 1217-1224.