

FRP-1 (H-90): sc-13939

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, 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, a cysteine-rich domain in the extracellular region and a 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 and 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-terminal. 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: SFRP1 (human) mapping to 8p11.21; Sfrp1 (mouse) mapping to 8 A2.

SOURCE

FRP-1 (H-90) is a rabbit polyclonal antibody raised against amino acids 161-250 of FRP-1 of human origin.

PRODUCT

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

APPLICATIONS

FRP-1 (H-90) is recommended for detection of FRP-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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-1 (H-90) is also recommended for detection of FRP-1 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for FRP-1 siRNA (h): sc-39998, FRP-1 siRNA (m): sc-39999, FRP-1 shRNA Plasmid (h): sc-39998-SH, FRP-1 shRNA Plasmid (m): sc-39999-SH, FRP-1 shRNA (h) Lentiviral Particles: sc-39998-V and FRP-1 shRNA (m) Lentiviral Particles: sc-39999-V.

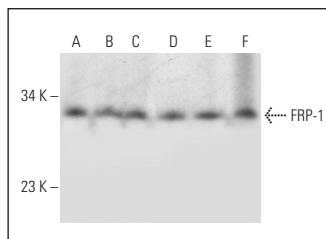
Molecular Weight of FRP-1: 36 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, A-375 cell lysate: sc-3811 or MDA-MB-435S whole cell lysate: sc-364184.

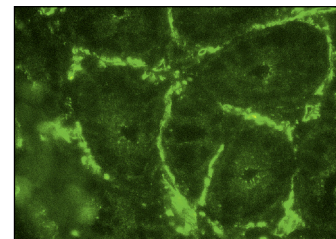
STORAGE

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

DATA



FRP-1 (H-90): sc-13939. Western blot analysis of FRP-1 expression in MCF7 (A), MDA-MB-435S (B), A-375 (C), A-431 (D) and K-562 (E) whole cell lysates and rat kidney tissue extract (F).



FRP-1 (H-90): sc-13939. Immunofluorescence staining of normal mouse liver frozen section showing extracellular matrix staining.

SELECT PRODUCT CITATIONS

- Joesting, M.S., et al. 2005. Identification of SFRP1 as a candidate mediator of stromal-to-epithelial signaling in prostate cancer. *Cancer Res.* 65: 10423-10430.
- Xie, H., et al. 2008. Inactivation of nuclear Wnt- β -catenin signaling limits blastocyst competency for implantation. *Development* 135: 717-727.
- Kawamoto, K., et al. 2008. DNA methylation and histone modifications cause silencing of Wnt antagonist gene in human renal cell carcinoma cell lines. *Int. J. Cancer* 123: 535-542.
- Svensson, A., et al. 2008. Secreted frizzled related protein 1 (SFRP-1) and Wnt signaling in innervated and denervated skeletal muscle. *J. Mol. Histol.* 39: 329-337.
- Saini, S., et al. 2009. Functional significance of secreted frizzled-related protein 1 in metastatic renal cell carcinomas. *Cancer Res.* 69: 6815-6822.
- Yang, Z.Q., et al. 2009. Methylation-associated silencing of SFRP1 with an 8p11-12 amplification inhibits canonical and non-canonical WNT pathways in breast cancers. *Int. J. Cancer* 125: 1613-1621.
- Foronjy, R., et al. 2010. The divergent roles of secreted frizzled related protein-1 (SFRP1) in lung morphogenesis and emphysema. *Am. J. Pathol.* 177: 598-607.
- Meng, Y., et al. 2011. Epigenetic inactivation of the SFRP1 gene in esophageal squamous cell carcinoma. *Dig. Dis. Sci.* 56: 3195-3203.
- Kaur, P., et al. 2012. Epigenetic silencing of sFRP1 activates the canonical Wnt pathway and contributes to increased cell growth and proliferation in hepatocellular carcinoma. *Tumour Biol.* 33: 325-336.
- 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.

RESEARCH USE

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