SANTA CRUZ BIOTECHNOLOGY, INC.

frizzled-4 (H-120): sc-135108

BACKGROUND

Frizzled-4 is a 537 amino acid protein encoded by the human gene FZD4. Frizzled-4 acts as a receptor for Wnt proteins. Most frizzled receptors are coupled to the β-catenin canonical signaling pathway, which leads to the activation of disheveled proteins, inhibition of GSK-3 kinase, nuclear accumulation of β-catenin and activation of Wnt target genes. A second signaling pathway involving PKC and calcium fluxes has been seen for some family members, but it is not yet clear if it represents a distinct pathway or if it can be integrated in the canonical pathway, as PKC seems to be required for Wnt-mediated inactivation of GSK-3 kinase. Both pathways seem to involve interactions with G proteins. Frizzled-4 may be involved in transduction and intercellular transmission of polarity information during tissue morphogenesis and/or in differentiated tissues. Frizzled-4 also plays a critical role in retinal angiogenesis. Frizzled-4 is virtually ubiquitously expressed with greatest amounts found in adult heart, skeletal muscle, ovary and fetal kidney.

REFERENCES

1. Robitaille, J., et al. 2002. Mutant frizzled-4 disrupts retinal angiogenesis in familial exudative vitreoretinopathy. Nat. Genet. 32: 326-330.
2. Omoto, S., et al. 2004. Autosomal dominant familial exudative vitreoretinopathy in two Japanese families with FZD4 mutations (H69Y and C181R). Ophthalmic Genet. 25: 81-90.
3. Swain, R.K., et al. 2005. *Xenopus* frizzled-4S, a splicing variant of Xfz4 is a context-dependent activator and inhibitor of Wnt/β-catenin signaling. Cell Commun. Signal. 3: 12.
4. Qin, M., et al. 2005. Complexity of the genotype-phenotype correlation in familial exudative vitreoretinopathy with mutations in the LRP5 and/or FZD4 genes. Hum. Mutat. 26: 104-112.
5. MacDonald, M.L., et al. 2005. Genetic variants of frizzled-4 gene in familial exudative vitreoretinopathy and advanced retinopathy of prematurity. Clin. Genet. 67: 363-366.
6. Masckauchán, T.N., et al. 2005. Wnt/β-catenin signaling induces proliferation, survival and interleukin-8 in human endothelial cells. Angiogenesis 8: 43-51.

CHROMOSOMAL LOCATION

Genetic locus: FZD4 (human) mapping to 11q14.2; Fzd4 (mouse) mapping to 7 E1.

SOURCE

frizzled-4 (H-120) is a rabbit polyclonal antibody raised against amino acids 105-224 mapping within an internal region of frizzled-4 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.

RESEARCH USE

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

APPLICATIONS

frizzled-4 (H-120) is recommended for detection of frizzled-4 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).

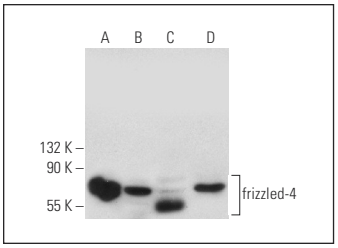
frizzled-4 (H-120) is also recommended for detection of frizzled-4 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for frizzled-4 siRNA (h): sc-39983, frizzled-4 siRNA (m): sc-39984, frizzled-4 shRNA Plasmid (h): sc-39983-SH, frizzled-4 shRNA Plasmid (m): sc-39984-SH, frizzled-4 shRNA (h) Lentiviral Particles: sc-39983-V and frizzled-4 shRNA (m) Lentiviral Particles: sc-39984-V.

Molecular Weight of frizzled-4: 59 kDa.

Positive Controls: ES-2 cell lysate: sc-24674, Sol8 cell lysate: sc-2249 or MIA PaCa-2 cell lysate: sc-2285.

DATA



frizzled-4 (H-120): sc-135108. Western blot analysis of frizzled-4 expression in Sol8 (**A**), ES-2 (**B**), MIA PaCa-2 (**C**) and 293T (**D**) whole cell lysates.

STORAGE

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

PROTOCOLS

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