

WIF-1 (N-20): sc-15666

BACKGROUND

The Wnt genes are a group of conserved, cysteine-rich, secreted glycoproteins that are required for numerous developmental processes including embryogenesis, asymmetric cell division and central nervous system (CNS) patterning. Wnt association with the transmembrane spanning receptor frizzled, activates dishevelled, which downregulates glycogen synthase kinase (GSK) through serine phosphorylation. Reduced levels of active GSK causes accumulation of β -Catenin and subsequent regulation of developmentally significant Wnt target genes. Wnt antagonists such as Dickkopf (Dkk), frizzled-related protein (sFRP) and Wnt inhibitory factor-1 (WIF-1), are necessary to ensure normal spatial and temporal patterns of Wnt activity during developmental processes. Wnt inhibitory factor-1 (WIF-1) is a 379-amino acid, secreted protein that contains an N-terminal signal sequence, a 150-amino acid WIF domain, five epidermal growth factor-like repeats, and a 45-amino acid C-terminal hydrophilic domain.

REFERENCES

1. Krasnow, R.E., et al. 1995. Dishevelled is a component of the frizzled signaling pathway in *Drosophila*. *Development* 121: 4095-4102.
2. Cadigan, K.M., et al. 1997. Wnt signaling: a common theme in animal development. *Genes Dev.* 11: 3286-3305.
3. Sakanaka, C., et al. 1998. Bridging of β -catenin and glycogen synthase kinase-3 β by axin and inhibition of β -catenin-mediated transcription. *Proc. Natl. Acad. Sci. USA* 95: 3020-3023.
4. Glinka, A., et al. 1998. Dickkopf-1 is a member of a new family of secreted proteins and functions in head induction. *Nature* 391: 357-362.
5. Hsieh, J.C., et al. 1999. A new secreted protein that binds to Wnt proteins and inhibits their activities. *Nature* 398: 431-436.
6. Online Mendelian Inheritance in Man, OMIM[™]. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605186. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: WIF1 (human) mapping to 12q14.3; Wif1 (mouse) mapping to 10 D2.

SOURCE

WIF-1 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of WIF-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.

Blocking peptide available for competition studies, sc-15666 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

WIF-1 (N-20) is recommended for detection of precursor and mature WIF-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).

Suitable for use as control antibody for WIF-1 siRNA (h): sc-36837, WIF-1 siRNA (m): sc-36838, WIF-1 shRNA Plasmid (h): sc-36837-SH, WIF-1 shRNA Plasmid (m): sc-36838-SH, WIF-1 shRNA (h) Lentiviral Particles: sc-36837-V and WIF-1 shRNA (m) Lentiviral Particles: sc-36838-V.

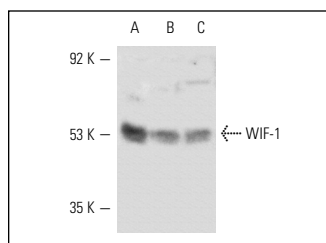
Molecular Weight of WIF-1: 65 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, 3T3-L1 cell lysate: sc-2243 or mouse embryo extract.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



WIF-1 (N-20): sc-15666. Western blot analysis of WIF-1 expression in NIH/3T3 (A) and 3T3-L1 (B) whole cell lysates and mouse embryo extract (C).

SELECT PRODUCT CITATIONS

1. Ohshima, M., et al. 2006. Characterization and isolation of stem cell-enriched human hair follicle bulge cells. *J. Clin. Invest.* 116: 249-260.

RESEARCH USE

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

PROTOCOLS

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