SANTA CRUZ BIOTECHNOLOGY, INC.

WIF-1 (B-10): sc-373780

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-3β by axin and inhibition of β-catenin-mediated transcription. Proc. Natl. Acad. Sci. USA 95: 3020-3023.

CHROMOSOMAL LOCATION

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

SOURCE

WIF-1 (B-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 331-360 near the C-terminus of WIF-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

WIF-1 (B-10) is available conjugated to agarose (sc-373780 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-373780 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373780 PE), fluorescein (sc-373780 FITC), Alexa Fluor® 488 (sc-373780 AF488), Alexa Fluor® 546 (sc-373780 AF546), Alexa Fluor® 594 (sc-373780 AF594) or Alexa Fluor® 647 (sc-373780 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373780 AF680) or Alexa Fluor® 790 (sc-373780 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-373780 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

WIF-1 (B-10) is recommended for detection of precursor and mature WIF-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

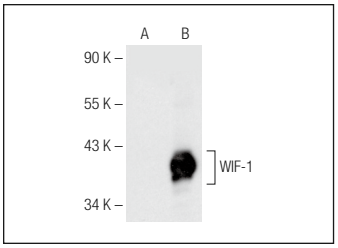
Suitable for use as control antibody for WIF-1 siRNA (h): sc-36837, WIF-1 siRNA (m): sc-36838, WIF-1 shRNA Plasmid (h): sc-36837-SH, WIF-1 shRNA Plasmid (m): sc-36838-SH, WIF-1 shRNA (h) Lentiviral Particles: sc-36837-V and WIF-1 shRNA (m) Lentiviral Particles: sc-36838-V.

Molecular Weight (predicted) of WIF-1: 42 kDa.

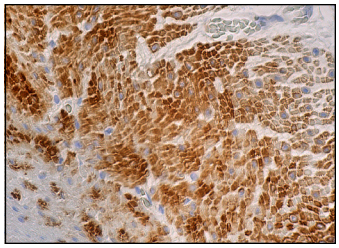
Molecular Weight (observed) of WIF-1: 55-63 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, HeLa whole cell lysate: sc-2200 or WIF-1 (h): 293T Lysate: sc-176688.

DATA



WIF-1 (B-10): sc-373780. Western blot analysis of WIF-1 expression in non-transfected: sc-117752 (**A**) and human WIF-1 transfected: sc-176688 (**B**) 293T whole cell lysates.



WIF-1 (B-10): sc-373780. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of smooth muscle cells.

SELECT PRODUCT CITATIONS

1. Ge, X.S., et al. 2013. HOTAIR, a prognostic factor in esophageal squamous cell carcinoma, inhibits WIF-1 expression and activates Wnt pathway. Cancer Sci. 104: 1675-1682.
2. Yuan, Y., et al. 2020. The fiber metabolite butyrate reduces gp130 by targeting TRAF5 in colorectal cancer cells. Cancer Cell Int. 20: 212.
3. Yang, Y., et al. 2020. A long non-coding RNA, HOTAIR, promotes cartilage degradation in osteoarthritis by inhibiting WIF-1 expression and activating Wnt pathway. BMC Mol. Cell Biol. 21: 53.
4. Wang, S., et al. 2023. Defining ovine dermal papilla cell markers and identifying key signaling pathways regulating its intrinsic properties. Front. Vet. Sci. 10: 1127501.

STORAGE

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