

# Dkk-4 (H-80): sc-25519

## BACKGROUND

The Wnt genes are a group of well 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 seven membrane spanning receptor Frizzled, activates Dishevelled, which downregulates glycogen synthase kinase (GSK) (through serine phosphorylation), causing the accumulation of  $\beta$ -Catenin and the regulation of developmentally significant Wnt target genes. The Dickkopf family of secreted inhibitors of Wnt signaling ensures proper morphological development by antagonizing different stages of the Wnt cascade. Dkk-4 (Dickkopf-4) is a 224-amino acid secreted glycoprotein that is composed of an N-terminal signal peptide and 2 conserved cysteine-rich domains, which are separated by a 50-55-amino acid linker region.

## 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  $\beta$ -catenin and glycogen synthase kinase-3 $\beta$  by axin and inhibition of  $\beta$ -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. Fedi, P., et al. 1999. Isolation and biochemical characterization of the human Dkk-1 homologue, a novel inhibitor of mammalian Wnt signaling. *J. Biol. Chem.* 274: 19465-19472.
6. Online Mendelian Inheritance in Man, OMIM™. 2000. Johns Hopkins University, Baltimore, MD. MIM Number: 605189. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

## CHROMOSOMAL LOCATION

Genetic locus: DKK4 (human) mapping to 8p11.21; Dkk4 (mouse) mapping to 8 A2.

## SOURCE

Dkk-4 (H-80) is a rabbit polyclonal antibody raised against amino acids 1-80 of Dkk-4 of human origin.

## PRODUCT

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

## STORAGE

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

## RESEARCH USE

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

## APPLICATIONS

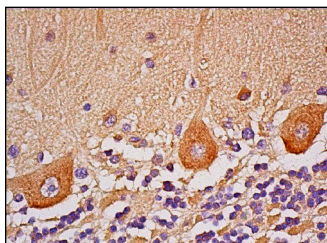
Dkk-4 (H-80) is recommended for detection of Dkk-4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution 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 Dkk-4 siRNA (h): sc-41104, Dkk-4 siRNA (m): sc-41105, Dkk-4 shRNA Plasmid (h): sc-41104-SH, Dkk-4 shRNA Plasmid (m): sc-41105-SH, Dkk-4 shRNA (h) Lentiviral Particles: sc-41104-V and Dkk-4 shRNA (m) Lentiviral Particles: sc-41105-V.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



Dkk-4 (H-80): sc-25519. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cerebellum tissue showing cytoplasmic staining of Purkinje cells.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.