

# Dkk-1 (H-120): sc-25516

## 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 subsequent 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-1 (Dickkopf-1) acts upstream of  $\beta$ -catenin and dishevelled to inhibit Wnt signaling. Dkk-1 is a 266-amino acid (human), secreted protein that contains a 31-residue N-terminal signal peptide, 2 cysteine rich domains, and a putative carboxy-terminal N-glycosylation site. Human Dkk-1 transcripts are abundantly present in fetal kidney, adult placenta and adult prostate. Putative *cis* regulatory elements upstream of the Dkk-1 start site include p53, Sp1, MyoD, STAT, Oct-1/2, C/EBP- $\alpha$ , C/EBP- $\beta$  and GATA-1, GATA-2 and GATA-3.

## CHROMOSOMAL LOCATION

Genetic locus: DKK1 (human) mapping to 10q21.1; Dkk1 (mouse) mapping to 19 C1.

## SOURCE

Dkk-1 (H-120) is a rabbit polyclonal antibody raised against amino acids 1-120 of Dkk-1 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.

Available as agarose conjugate for immunoprecipitation, sc-25516 AC, 500  $\mu$ g/0.25 ml agarose in 1 ml.

## APPLICATIONS

Dkk-1 (H-120) is recommended for detection of Dkk-1 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).

Dkk-1 (H-120) is also recommended for detection of Dkk-1 in additional species, including bovine.

Suitable for use as control antibody for Dkk-1 siRNA (h): sc-37082, Dkk-1 siRNA (m): sc-37083, Dkk-1 shRNA Plasmid (h): sc-37082-SH, Dkk-1 shRNA Plasmid (m): sc-37083-SH, Dkk-1 shRNA (h) Lentiviral Particles: sc-37082-V and Dkk-1 shRNA (m) Lentiviral Particles: sc-37083-V.

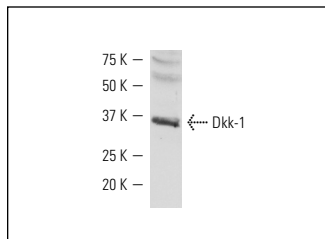
Molecular Weight of Dkk-1: 35 kDa.

Positive Controls: JEG-3 whole cell lysate: sc-364255.

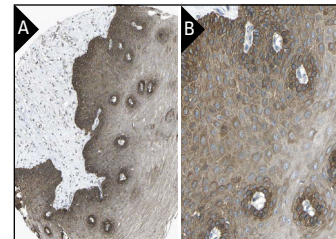
## STORAGE

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

## DATA



Dkk-1 (H-120): sc-25516. Western blot analysis of Dkk-1 expression in JEG-3 whole cell lysate.



Dkk-1 (H-120): sc-25516. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of squamous epithelial cells at low (A) and high (B) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS

- Maekawa, M., et al. 2005. Requirement of the MAP kinase signaling pathways for mouse preimplantation development. *Development* 132: 1773-1783.
- Wang, H., et al. 2012. Genistein affects histone modifications on Dickkopf-related protein 1 (DKK1) gene in SW480 human colon cancer cell line. *PLoS ONE* 7: e40955.
- Zhou, A.D., et al. 2012.  $\beta$ -catenin/LEF1 transactivates the microRNA-371-373 cluster that modulates the Wnt/ $\beta$ -catenin-signaling pathway. *Oncogene* 31: 2968-2978.
- Huang, Z., et al. 2013. Lysine-specific demethylase 1 (LSD1/KDM1A) contributes to colorectal tumorigenesis via activation of the Wnt/ $\beta$ -catenin pathway by down-regulating Dickkopf-1 (DKK1) [corrected]. *PLoS ONE* 8: e70077.
- Chen, L., et al. 2013. DKK1 promotes hepatocellular carcinoma cell migration and invasion through  $\beta$ -catenin/MMP7 signaling pathway. *Mol. Cancer* 12: 157.
- Xiao, X., et al. 2014. Wnt/ $\beta$ -catenin signaling pathway and lipolysis enzymes participate in methylprednisolone induced fat differential distribution between subcutaneous and visceral adipose tissue. *Steroids* 84: 30-35.

## RESEARCH USE

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


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Try **Dkk-1 (B-7): sc-374574**, our highly recommended monoclonal alternatives to Dkk-1 (H-120). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Dkk-1 (B-7): sc-374574**.