SANTA CRUZ BIOTECHNOLOGY, INC.

Dkk-1 (S-20): sc-30782

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 β-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 β-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-α, C/EBP-β, GATA-1, GATA-2 and GATA-3.

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.
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.

CHROMOSOMAL LOCATION

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

SOURCE

Dkk-1 (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Dkk-1 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.

Blocking peptide available for competition studies, sc-30782 P, (100 µg 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

Dkk-1 (S-20) is recommended for detection of precursor and mature Dkk-1 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (S-20) is also recommended for detection of precursor and mature Dkk-1 in additional species, including equine, bovine and porcine.

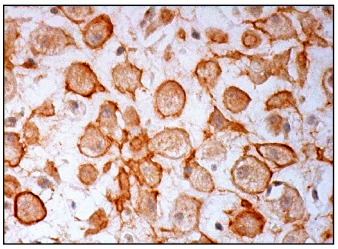
Suitable for use as control antibody for Dkk-1 siRNA (h): sc-37082, Dkk-1 siRNA (m): sc-37083, Dkk-1 shRNA Plasmid (h): sc-37082-SH, Dkk-1 shRNA Plasmid (m): sc-37083-SH, Dkk-1 shRNA (h) Lentiviral Particles: sc-37082-V and Dkk-1 shRNA (m) Lentiviral Particles: sc-37083-V.

Molecular Weight of Dkk-1: 35 kDa.

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) 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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Dkk-1 (S-20): sc-30782. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cell surface staining of decidual cells.

RESEARCH USE

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