

# Kremen-1 (N-14): sc-47085

## 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. The association of the Wnt protein with the seven membrane spanning receptor frizzled activates dishevelled, which downregulates glycogen synthase kinase (GSK) through serine phosphorylation. Reduced levels of active GSK causes the accumulation of  $\beta$ -catenin and subsequent regulation of developmentally significant Wnt target genes. Wnt antagonists, Dickkopf (which includes Dkk1-4), frizzled-related protein (sFRP), Soggy-1, Kremen-1 and Wnt inhibitory factor-1 (WIF-1) are necessary to ensure normal spatial and temporal patterns of Wnt activity during developmental processes.

## 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. Etheridge, S.L., et al. 2004. Expression profiling and functional analysis of Wnt signaling mechanisms in mesenchymal stem cells. *Stem Cells* 22: 849-860.
7. Kulkarni, N.H., et al. 2005. Effects of parathyroid hormone on Wnt signaling pathway in bone. *J. Cell. Biochem.* 95: 1178-1190.

## CHROMOSOMAL LOCATION

Genetic locus: KREMEN1 (human) mapping to 22q12.1; Kremen1 (mouse) mapping to 11 A1.

## SOURCE

Kremen-1 (N-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Kremen-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.

Blocking peptide available for competition studies, sc-47085 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## RESEARCH USE

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

## APPLICATIONS

Kremen-1 (N-14) is recommended for detection of mature Kremen-1 and Dickkopf precursor of mouse, rat and human 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Kremen-1 (N-14) is also recommended for detection of mature Kremen-1 and Dickkopf precursor in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Kremen-1 siRNA (h): sc-60899, Kremen-1 siRNA (m): sc-60900, Kremen-1 shRNA Plasmid (h): sc-60899-SH, Kremen-1 shRNA Plasmid (m): sc-60900-SH, Kremen-1 shRNA (h) Lentiviral Particles: sc-60899-V and Kremen-1 shRNA (m) Lentiviral Particles: sc-60900-V.

Molecular Weight of Kremen-1: 52 kDa.

Positive Controls: Daudi + IFN- $\alpha$  cell lysate: sc-2266.

## 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.

## STORAGE

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

## PROTOCOLS

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