

# Wnt-14 (H-95): sc-20962

## BACKGROUND

The Wnt genes encode a family of secreted extracellular signaling glycoproteins, which function in a variety of important developmental processes such as regulation of cell growth and differentiation. Wnt proteins also play roles in carcinogenesis. Wnt-14 rather than Wnt-15 is preferentially expressed in various types of human cancer and is up-regulated by IFN $\gamma$ , but not by TNF $\alpha$  in cells derived from gastric cancer. Wnt-15 is expressed in fetal and adult kidney and is most homologous to Wnt-14. Wnt-16, another member in the Wnt family, has two mRNA isoforms, Wnt-16a and Wnt-16b. These isoforms differ in the composition of their 5'UTR and first exon, which results in differential expression. Wnt-16a is expressed only on the pancreas, whereas Wnt-16b is highly expressed in adult kidney, placenta, brain, heart and spleen, but not in bone marrow. However, Wnt-16 transcripts are present in bone marrow and cell lines derived from pre-B acute lymphoblastoid leukemias patients carrying the E2A-Pbx1 hybrid gene. Thus, Wnt-16 is a downstream target of E2A-Pbx1, and the Wnt-16-mediated autocrine growth mechanism may contribute to the development of t(1;19) pre-B acute lymphoblastoid leukemias.

## REFERENCES

- Bergstein, I., et al. 1997. Isolation of two novel Wnt genes, Wnt-14 and Wnt15, one of which (Wnt15) is closely linked to Wnt3 on human chromosome 17q21. *Genomics* 46: 450-458.
- McWhirter, J.R., et al. 1999. Oncogenic homeodomain transcription factor E2A-Pbx1 activates a novel Wnt gene in pre-B acute lymphoblastoid leukemia. *Proc. Natl. Acad. Sci. USA* 96: 11464-11469.
- Fear, M.W., et al. 2000. Wnt-16a, a novel Wnt-16 isoform, which shows differential expression in adult human tissues. *Biochem. Biophys. Res. Comm.* 278: 814-820.
- Kirikoshi, H., et al. 2001. Molecular cloning and characterization of Wnt-14b, a novel member of the Wnt gene family. *Int. J. Oncol.* 19: 947-952.
- Kirikoshi, H., et al. 2001. Expression of Wnt-14 and Wnt-14b mRNAs in human cancer, up-regulation of Wnt-14 by IFN $\gamma$  and up-regulation of Wnt-14b by  $\beta$ -estradiol. *Int. J. Oncol.* 19: 1221-1225.

## CHROMOSOMAL LOCATION

Genetic locus: WNT9A (human) mapping to 1q42.13; Wnt9a (mouse) mapping to 11 B1.3.

## SOURCE

Wnt-14 (H-95) is a rabbit polyclonal antibody raised against amino acids 241-336 of Wnt-14 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.

## RESEARCH USE

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

## APPLICATIONS

Wnt-14 (H-95) is recommended for detection of Wnt-14 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

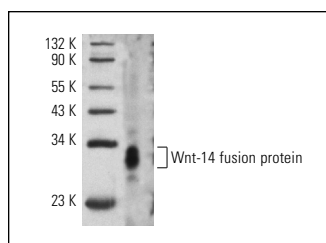
Wnt-14 (H-95) is also recommended for detection of Wnt-14 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Wnt-14 siRNA (h): sc-41122, Wnt-14 siRNA (m): sc-41123, Wnt-14 shRNA Plasmid (h): sc-41122-SH, Wnt-14 shRNA Plasmid (m): sc-41123-SH, Wnt-14 shRNA (h) Lentiviral Particles: sc-41122-V and Wnt-14 shRNA (m) Lentiviral Particles: sc-41123-V.

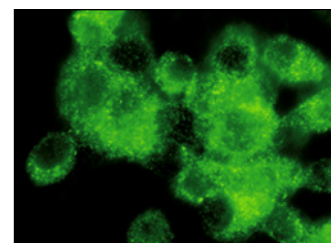
## RECOMMENDED SECONDARY REAGENTS

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<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

## DATA



Wnt-14 (H-95): sc-20962. Western blot analysis of human recombinant Wnt-14 fusion protein.



Wnt-14 (H-95): sc-20962. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

- Mizukami, M., et al. 2009. Wnt-14 inhibits death of retinal precursor cells. *Exp. Eye Res.* 89: 462-468.

## STORAGE

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