

# Wnt-16 (B-4): sc-271897



The Power to Question

## 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. 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 in 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 leukemia 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

1. Bergstein, I., et al. 1997. Isolation of two novel Wnt genes, Wnt-14 and Wnt-15, one of which (Wnt-15) is closely linked to Wnt-3 on human chromosome 17q21. *Genomics* 46: 450-458.
2. 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.

## CHROMOSOMAL LOCATION

Genetic locus: WNT16 (human) mapping to 7q31.31; Wnt16 (mouse) mapping to 6 A3.1.

## SOURCE

Wnt-16 (B-4) is a mouse monoclonal antibody raised against amino acids 111-207 of Wnt-16 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Wnt-16 (B-4) is available conjugated to agarose (sc-271897 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271897 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271897 PE), fluorescein (sc-271897 FITC), Alexa Fluor® 488 (sc-271897 AF488), Alexa Fluor® 546 (sc-271897 AF546), Alexa Fluor® 594 (sc-271897 AF594) or Alexa Fluor® 647 (sc-271897 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271897 AF680) or Alexa Fluor® 790 (sc-271897 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## STORAGE

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

## APPLICATIONS

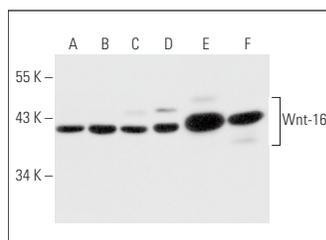
Wnt-16 (B-4) is recommended for detection of Wnt-16 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 Wnt-16 siRNA (h): sc-41128, Wnt-16 siRNA (m): sc-41129, Wnt-16 shRNA Plasmid (h): sc-41128-SH, Wnt-16 shRNA Plasmid (m): sc-41129-SH, Wnt-16 shRNA (h) Lentiviral Particles: sc-41128-V and Wnt-16 shRNA (m) Lentiviral Particles: sc-41129-V.

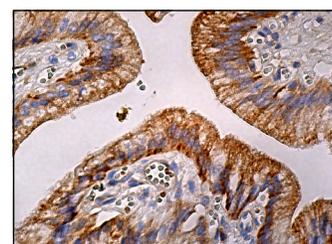
Molecular Weight of Wnt-16: 41 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, Raji whole cell lysate: sc-364236 or HEK293 whole cell lysate: sc-45136.

## DATA



Wnt-16 (B-4): sc-271897. Western blot analysis of Wnt-16 expression in Hep G2 (A), Raji (B), HEK293 (C), SK-N-MC (D), F9 (E) and Neuro-2A (F) whole cell lysates.



Wnt-16 (B-4): sc-271897. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Holmlund, T., et al. 2013. GCN5 acetylates and regulates the stability of the oncoprotein E2A-PBX1 in acute lymphoblastic leukemia. *Leukemia* 27: 578-585.
2. Chen, S., et al. 2018. Differential effects of type 1 diabetes mellitus and subsequent osteoblastic  $\beta$ -catenin activation on trabecular and cortical bone in a mouse model. *Exp. Mol. Med.* 50: 1-14.
3. Jo, S., et al. 2021. Wnt-16 elevation induced cell senescence of osteoblasts in ankylosing spondylitis. *Arthritis Res. Ther.* 23: 301.
4. Tornqvist, A.E., et al. 2022. Induced inactivation of Wnt16 in young adult mice has no impact on osteoarthritis development. *PLoS ONE* 17: e0277495.
5. Cai, S., et al. 2023. Transcriptomic analysis of the upper lip and primary palate development in mice. *Front. Genet.* 13: 1039850.
6. Pilley, S.E., et al. 2023. Loss of attachment promotes proline accumulation and excretion in cancer cells. *Sci. Adv.* 9: eadh2023.

## RESEARCH USE

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