

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Wnt-16b in ELISA.
Source	Monoclonal Mouse IgG _{2B} Clone # 948309
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Wnt-16 Asn30-Lys365 Accession # Q9UBV4
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

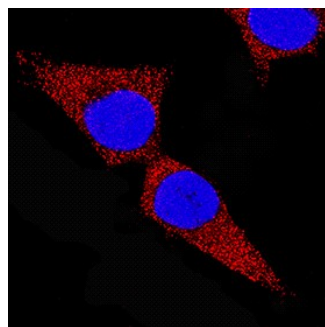
APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Immunocytochemistry	8-25 µg/mL	See Below

DATA

Immunocytochemistry



Wnt-16b in HEK293 Human Cell Line.
Wnt-16b was detected in immersion fixed HEK293 human embryonic kidney cell line using Mouse Anti-Human Wnt-16b Monoclonal Antibody (Catalog # MAB7790) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Wnt-16 is a 40 kDa protein within the Wnt family of secreted, highly conserved, cysteine-rich, palmitoylated cell signaling glycoproteins that play important roles in vertebrate developmental pattern formation, cell fate decision, axon guidance, and tumor formation (1-3). Wnt-16a and Wnt-16b isoforms in humans differ in the signal sequence and the first two amino acids (aa) of the mature protein (2, 3). Wnt-16b is the more conserved isoform and is widely expressed, while Wnt-16a is expressed mainly in the human pancreas (3). Mature human Wnt-16b shares 92%, 93%, and 95% aa sequence identity with mouse/rat, rabbit/porcine/equine, and bovine Wnt-16, respectively. Wnt-16 expression is detected on uterine stroma adjacent to the luminal epithelium during implantation (4). It is up-regulated during the first embryonic lymphoid progenitor differentiation (5). Congenital heart defects correlate with elevated Wnt-16 in mouse embryos and human amniotic fluid (6). Low cortical bone thickness and bone mineral density correlate with deletion of Wnt-16 in mice and a Wnt-16 missense SNP in humans (7). Wnt-16 is over-expressed in cells undergoing replicative senescence, and is up-regulated in articular cartilage by injury and osteoarthritis (8, 9). Wnt-16b expression in skin is up-regulated in human basal cell carcinomas, enhancing cell survival (10). Its expression is also up-regulated by DNA damage (radiation and chemotherapy) in stroma surrounding prostate tumors, causing enhanced survival and treatment resistance in the tumor cells (11). Pre-B acute lymphoblastic leukemia with t(1;19) translocation, creating an E2A-Pbx1 fusion protein, also causes up-regulation of Wnt-16 that confers resistance to apoptosis (12, 13). Wnt-16 signaling through both canonical and JNK-mediated (non-canonical) pathways is reported (8-10).

References:

1. Clevers, H. and R. Nusse (2012) *Cell* **149**:1192.
2. Katoh, H. and M. Katoh (2005) *Oncol. Rep.* **13**:771.
3. Fear, M.W. *et al.* (2000) *Biochem. Biophys. Res. Commun.* **278**:814.
4. Hayashi, K. *et al.* (2009) *Biol. Reprod.* **80**:989.
5. Corrigan, P.M. *et al.* (2009) *Stem Cells Dev.* **18**:759.
6. Nath, A.K. *et al.* (2009) *PLoS ONE* **4**:e4221.
7. Zheng, H.F. *et al.* (2012) *PLoS Genet.* **8**:31002745.
8. Dell'Accio, F. *et al.* (2008) *Arthritis Rheum.* **58**:1410.
9. Binet, R. *et al.* (2009) *Cancer Res.* **69**:9183.
10. Teh, M.T. *et al.* (2006) *J. Cell Sci.* **120**:330.
11. Sun, Y. *et al.* (2012) *Nat. Med.* **18**:1359.
12. McWhirter, J.R. *et al.* (1999) *Proc. Natl. Acad. Sci. USA* **96**:11464.
13. Mazieres, J. *et al.* (2005) *Oncogene* **24**:5396.