Human Wnt-10b Antibody

Monoclonal Mouse IgG_{2A} Clone # 793116

Catalog Number: MAB71961

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Wnt-10b in direct ELISAs. In direct ELISAs, 100% cross-reactivity with recombinant mouse Wnt-10b is observed and no cross-reactivity with recombinant human Wnt-6 is observed.
Source	Monoclonal Mouse IgG_{2A} Clone # 793116
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human Wnt-10b Asn29-Lys389 Accession # O00744
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 as a 0.2 μm filtered solution in PBS.

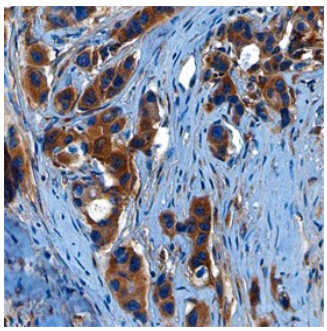
APPLICATIONS

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
Immunohistochemistry	8-25 µg/mL	See Below

DATA

Immunohistochemistry



Wnt-10b in Human Breast Cancer Tissue. Wnt-10b was detected in immersion fixed paraffin-embedded sections of human breast cancer tissue using Mouse Anti-Human Wnt-10b Monoclonal Antibody (Catalog # MAB71961) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counter-stained with hematoxylin (blue). Specific staining was localized to cytoplasm of cancer cells. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
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.** ● 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.

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BACKGROUND

Wnt-10b (also known as Wnt-12) is a 42-44 kDa member of the Wnt family of secreted, highly conserved, cysteine-rich glycoproteins that play important roles in vertebrate pattern formation, cell fate decision, axon guidance, and tumor formation (1-3). Human Wnt-10b cDNA encodes a 389 amino acid (aa) precursor that contains a 28 aa signal sequence plus a 361 aa mature protein that contains two glycosylation sites, three potential phosphorylation sites, and a potential palmitoylation site (3, 4). Human Wnt-10b shares 97-99% aa identity with mouse, rat, equine, porcine, and canine Wnt-10b. Wnt-10b plays a critical role in maintaining mesenchymal stem cells and determining whether they differentiate to adipocytes or osteoblasts (5-7). Mouse Wnt-10b deletion produces age-dependent loss of bone mass due to defective production of osteoblasts, while transgenic over-expression increases postnatal osteoblast differentiation and inhibits adipocyte differentiation (5-7). Ectopic expression of Wnt-10b in an obesity and diabetes-prone background, such as the ob/ob mouse, inhibits obesity (8). In mouse skeletal muscle, Wnt-10b is expressed inversely with SREBP1c and increases insulin sensitivity (9). In humans, a missense polymorphism is responsible for a malformation of hands and feet, while a C256Y inactivating mutation is associated with severe early-onset obesity (10, 11). Wnt-10b is mainly produced by stem cells and pre-osteoblasts, but also by adult bone marrow $CD8^+$ T lymphocytes stimulated with parathyroid hormone (12). In some hepatocellular carcinomas, Wnt-10b can inhibit cancer cell growth, but in others, it can act synergistically with FGFs to stimulate cell growth (13). Several Wnts, including Wnt-10b, are expressed in both normal and/or malignant colon tissues (14).

References:

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