SANTA CRUZ BIOTECHNOLOGY, INC.

Wnt-1 (E-10): sc-514531

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Products of the highly conserved Wnt gene family play key roles in regulating cellular growth and differentiation. The prototype member of the Wnt gene family, Wnt-1, is a cysteine-rich secreted glycoprotein that associates with cell membranes and likely functions as a key regulator of cellular adhesion. β-catenin, a cadherin-binding cellular adhesion protein which also binds the tumor supressor gene APC, has been identified as a downstream target of a signal transduction pathway mediated by Wnt-1. Wnt-1 is essential for normal development of the embryonic nervous system and its expression is normally limited to the embryonic neural tube and adult spermatids. When improperly expressed in mammary tissue, Wnt-1 contributes to hyperplasia and tumorigenic progression. Wnt family members have been shown to interact with Sonic hedgehog (Shh) *in vivo* to induce myogenesis in somitic tissue.

REFERENCES

1. Nusse, R., et al. 1992. Wnt genes. Cell 69: 1073-1087.
2. Hinck, L., et al. 1994. β-catenin: a common target for the regulation of cell adhesion by Wnt-1 and Src in signaling pathways. Trends Biochem. Sci. 19: 538-542.

CHROMOSOMAL LOCATION

Genetic locus: WNT1 (human) mapping to 12q13.12; Wnt1 (mouse) mapping to 15 F1.

SOURCE

Wnt-1 (E-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 41-65 at the N-terminus of Wnt-1 of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514531 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Wnt-1 (E-10) is recommended for detection of Wnt-1 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-1 siRNA (h): sc-36839, Wnt-1 siRNA (m): sc-36840, Wnt-1 shRNA Plasmid (h): sc-36839-SH, Wnt-1 shRNA Plasmid (m): sc-36840-SH, Wnt-1 shRNA (h) Lentiviral Particles: sc-36839-V and Wnt-1 shRNA (m) Lentiviral Particles: sc-36840-V.

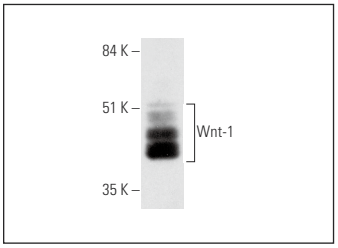
Molecular Weight of Wnt-1: 40-42 kDa.

Positive Controls: human spinal cord extract: sc-516710.

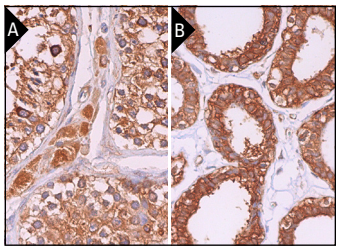
STORAGE

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

DATA



Wnt-1 (E-10): sc-514531. Western blot analysis of Wnt-1 expression in human spinal cord tissue extract.



Wnt-1 (E-10): sc-514531. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing membrane and cytoplasmic staining of cells in seminiferous ducts and cytoplasmic staining of Leydig cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells and myoepithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Chang, B., et al. 2018. *Tripterygium wilfordii* mitigates hyperglycemia-induced upregulated Wnt/β-catenin expression and kidney injury in diabetic rats. Exp. Ther. Med. 15: 3874-3882.
2. Choi, H.J., et al. 2019. CDK12 drives breast tumor initiation and trastuzumab resistance via Wnt and IRS1-ErbB-PI3K signaling. EMBO Rep. 20: e48058.
3. Xie, L., et al. 2020. Panax notoginseng ameliorates podocyte EMT by targeting the Wnt/β-catenin signaling pathway in STZ-induced diabetic rats. Drug Des. Devel. Ther. 14: 527-538.
4. Yang, S., et al. 2020. *Astragalus* polysaccharide inhibits breast cancer cell migration and invasion by regulating epithelial-mesenchymal transition via the Wnt/β-catenin signaling pathway. Mol. Med. Rep. 21: 1819-1832.
5. Abd El-Fadeal, N.M., et al. 2021. Antitumor activity of nitazoxanide against colon cancers: molecular docking and experimental studies based on Wnt/β-catenin signaling inhibition. Int. J. Mol. Sci. 22: 5213.
6. Ye, L., et al. 2021. Dihydromyricetin exhibits antitumor activity in nasopharyngeal cancer cell through antagonizing Wnt/β-catenin signaling. Integr. Cancer Ther. 20: 1534735421991217.
7. Bhattacharyya, S., et al. 2021. Chewing tobacco may act as a risk factor for dysplastic transformation of squamous cells in Oral leukoplakia—a cytochemistry based approach. Pathol. Res. Pract. 218: 153287.
8. Oh, Y., et al. 2021. Insertion of gallic acid onto chitosan promotes the differentiation of osteoblasts from murine bone marrow-derived mesenchymal stem cells. Int. J. Biol. Macromol. 183: 1410-1418.

RESEARCH USE

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