SANTA CRUZ BIOTECHNOLOGY, INC.

Wnt-3 (C-15): sc-5210

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Wnt gene family encodes secreted signaling molecules that bind to frizzled receptors and influence oncogenesis and developmental processes, including regulation of cell fate and patterning during embryogenesis. The Wnt family has two functional classes according to their biological activities; Wnts that signal through a Wnt-1/wingless pathway by stabilizing cytoplasmic β-catenin, and Wnts that stimulate intracellular Ca^{2+} release and activate two kinases, CamKII and PKC, in a G protein-dependent manner. Wnt-3 is present during development of the cerebellum and is restricted to the Purkinje cell layer in the adult. In motoneurons, Wnt-3 is a retrograde signal that controls terminal branching of muscle afferents. Human Wnt-3 is 98% homologous to mouse Wnt-3 protein and 84% homologous to human Wnt-3a protein. The human Wnt-3 gene clusters with the Wnt-15 gene at chromosome 17q21.

REFERENCES

1. Salinas, P.C., et al. 1992. Regional expression of the Wnt-3 gene in the developing mouse forebrain in relationship to diencephalic neuromeres. Mech. Dev. 39: 151-160.
2. Salinas, P.C., et al. 1994. Maintenance of Wnt-3 expression in Purkinje cells of the mouse cerebellum depends on interactions with granule cells. Development 120: 1277-1286.
3. Kuhl, M., et al. 2000. The Wnt/Ca^{2+} pathway: a new vertebrate Wnt signaling pathway takes shape. Trends Genet. 16: 279-283.
4. Krylova, O., et al. 2002. Wnt-3, expressed by motoneurons, regulates terminal arborization of neurotrophin-3-responsive spinal sensory neurons. Neuron 35: 1043-1056.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 165330. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: WNT3 (human) mapping to 17q21.32, WNT3A (human) mapping to 1q42.13; Wnt3 (mouse) mapping to 11 E1, Wnt3a (mouse) mapping to 11 B1.3.

SOURCE

Wnt-3 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Wnt-3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-5210 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Wnt-3 (C-15) is recommended for detection of Wnt-3 and Wnt-3a of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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-3 (C-15) is also recommended for detection of Wnt-3 and Wnt-3a in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight (predicted) of Wnt-3: 39 kDa.

Molecular Weight (observed) of Wnt-3: 65 kDa.

Positive Controls: Rat testis extract: sc-2400.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Kameya, S., et al. 2002. Mfrp, a gene encoding a frizzled related protein, is mutated in the mouse retinal degeneration 6. Hum. Mol. Genet. 11: 1879-1886.
2. Hwang, S.I., et al. 2006. Direct cancer tissue proteomics: a method to identify candidate cancer biomarkers from formalin-fixed paraffin-embedded archival tissues. Oncogene 26: 65-76.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.