

# Wnt-3 (H-70): sc-28824

## 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  $\beta$ -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 17q21.31.

## CHROMOSOMAL LOCATION

Genetic locus: WNT3 (human) mapping to 17q21.31, WNT3A (human) mapping to 1q42.13; Wnt3 (mouse) mapping to 11 E1, Wnt3a (mouse) mapping to 11 B1.3.

## SOURCE

Wnt-3 (H-70) is a rabbit polyclonal antibody raised against amino acids 241-310 mapping near the C-terminus of Wnt-3a of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## STORAGE

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

## RESEARCH USE

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

## APPLICATIONS

Wnt-3 (H-70) is recommended for detection of precursor and mature Wnt-3 and Wnt-3a of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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 (H-70) is also recommended for detection of precursor and mature Wnt-3 and Wnt-3a in additional species, including equine, canine, bovine, porcine and avian.

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

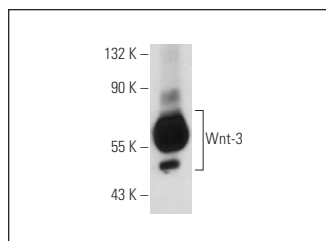
Molecular Weight (observed) of Wnt-3: 65 kDa.

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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



Wnt-3 (H-70): sc-28824. Western blot analysis of Wnt-3 expression in rat testis tissue extract.

## SELECT PRODUCT CITATIONS

1. Wang, X.L., et al. 2007. Proliferation of neural stem cells correlates with Wnt-3 protein in hypoxic-ischemic neonate rats after hyperbaric oxygen therapy. *Neuroreport* 18: 1753-1756.
2. Cheng, S.L., et al. 2008. Msx2 exerts bone anabolism via canonical Wnt signaling. *J. Biol. Chem.* 283: 20505-20522.
3. Chen, J.H., et al. 2011.  $\beta$ -catenin mediates mechanically regulated, transforming growth factor- $\beta$ 1-induced myofibroblast differentiation of aortic valve interstitial cells. *Arterioscler. Thromb. Vasc. Biol.* 31: 590-597.
4. Tabatadze, N., et al. 2012. Wnt transmembrane signaling and long-term spatial memory. *Hippocampus* 22: 1228-1241.
5. Cases, O., et al. 2013. Cubilin, a high affinity receptor for fibroblast growth factor 8, is required for cell survival in the developing vertebrate head. *J. Biol. Chem.* 288: 16655-16670.

## PROTOCOLS

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