

# Wnt-7a/b (H-40): sc-32865

## 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-7a guides the development of the anterior-posterior axis in the female reproductive tract and influences uterine smooth muscle patterning and maintenance of adult uterine function. The human Wnt-7a gene maps to chromosome 3p25.1. The human Wnt-7b gene maps to chromosome 22q13.31.

## REFERENCES

1. Ikegawa, S., et al. 1996. Isolation, characterization and chromosomal assignment of the human Wnt7a gene. *Cytogenet. Cell Genet.* 74: 149-152.
2. Johnson, R.L., et al. 1997. Molecular models for vertebrate limb development. *Cell* 90: 979-990.
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. Li, S., et al. 2001. Decreased expression of Wnt-7a mRNA is inversely associated with the expression of estrogen receptor- $\alpha$  in human uterine leiomyoma. *J. Clin. Endocr. Metab.* 86: 454-457.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 601570. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. LocusLink Report (LocusID: 7476). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: WNT7A (human) mapping to 3p25.1, WNT7B (human) mapping to 22q13.31; Wnt7a (mouse) mapping to 6 D1, Wnt7b (mouse) mapping to 15 E2.

## SOURCE

Wnt-7a/b (H-40) is a rabbit polyclonal antibody raised against amino acids 32-71 mapping near the N-terminus of Wnt-7a 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

Wnt-7a/b (H-40) is recommended for detection of precursor and mature Wnt-7a and Wnt-7b 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-7a/b (H-40) is also recommended for detection of precursor and mature Wnt-7a and Wnt-7b in additional species, including equine, canine, bovine, porcine and avian.

Molecular Weight of Wnt-7a/b: 39 kDa.

Positive Controls: BT-20 cell lysate: sc-2223.

## 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.

## SELECT PRODUCT CITATIONS

1. Cheng, S.L., et al. 2008. Msx2 exerts bone anabolism via canonical Wnt signaling. *J. Biol. Chem.* 283: 20505-20522.
2. Brynczka, C., et al. 2008. The p53 transcriptional target gene Wnt-7b contributes to NGF-inducible neurite outgrowth in neuronal PC12 cells. *Differentiation* 76: 795-808.
3. Tabatadze, N., et al. 2012. Wnt transmembrane signaling and long-term spatial memory. *Hippocampus* 22: 1228-1241.

## RESEARCH USE

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



Try **Wnt-7a/b (H-8): sc-365459** or **Wnt-7a (E-9): sc-365665**, our highly recommended monoclonal alternatives to Wnt-7a/b (H-40).