

# Wnt-7a/b (H-8): sc-365459

## 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  $\text{Ca}^{2+}$  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/ $\text{Ca}^{2+}$  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. Endocrinol. Metab.* 86: 454-457.

## 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-8) is a mouse monoclonal antibody raised against amino acids 32-71 mapping near the N-terminus of Wnt-7a of human origin.

## PRODUCT

Each vial contains 200  $\mu\text{g}$  IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Wnt-7a/b (H-8) is available conjugated to agarose (sc-365459 AC), 500  $\mu\text{g}$ /0.25 ml agarose in 1 ml, for IP; to HRP (sc-365459 HRP), 200  $\mu\text{g}$ /ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365459 PE), fluorescein (sc-365459 FITC), Alexa Fluor<sup>®</sup> 488 (sc-365459 AF488), Alexa Fluor<sup>®</sup> 546 (sc-365459 AF546), Alexa Fluor<sup>®</sup> 594 (sc-365459 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-365459 AF647), 200  $\mu\text{g}$ /ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-365459 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-365459 AF790), 200  $\mu\text{g}$ /ml, for Near-Infrared (NIR) WB, IF and FCM.

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## RESEARCH USE

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

## APPLICATIONS

Wnt-7a/b (H-8) is recommended for detection of precursor and mature Wnt-7a and Wnt-7b of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu\text{g}$  per 100-500  $\mu\text{g}$  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).

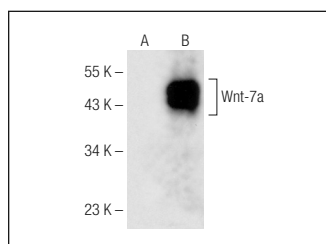
Molecular Weight of Wnt-7a/b: 39 kDa.

Positive Controls: Wnt-7a (h2): 293T Lysate: sc-176093 or BT-20 cell lysate: sc-2223.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 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 m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



Wnt-7a/b (H-8): sc-365459. Western blot analysis of Wnt-7a expression in non-transfected: sc-117752 (A) and human Wnt-7a transfected: sc-176093 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Tenjin, Y., et al. 2019. Ascl1-induced Wnt11 regulates neuroendocrine differentiation, cell proliferation, and E-cadherin expression in small-cell lung cancer and Wnt11 regulates small-cell lung cancer biology. *Lab. Invest.* 99: 1622-1635.
2. Ghorbani, M., et al. 2020. Impacts of epidural electrical stimulation on Wnt signaling, FAAH, and BDNF following thoracic spinal cord injury in rat. *J. Cell. Physiol.* 235: 9795-9805.
3. Song, S., et al. 2021. Activation of endothelial Wnt/ $\beta$ -catenin signaling by protective astrocytes repairs BBB damage in ischemic stroke. *Prog. Neurobiol.* 199: 101963.

## STORAGE

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