SANTA CRUZ BIOTECHNOLOGY, INC.

Wnt-7a (E-9): sc-365665

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-7a guides the development of the anterior-posterior axis in the female reproductive tract, and influences uterine smooth muscle pattering 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.

CHROMOSOMAL LOCATION

Genetic locus: WNT7A (human) mapping to 3p25.1; Wnt7a (mouse) mapping to 6 D1.

SOURCE

Wnt-7a (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 247-273 near the C-terminus of Wnt-7a of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Wnt-7a (E-9) is available conjugated to agarose (sc-365665 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365665 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365665 PE), fluorescein (sc-365665 FITC), Alexa Fluor® 488 (sc-365665 AF488), Alexa Fluor® 546 (sc-365665 AF546), Alexa Fluor® 594 (sc-365665 AF594) or Alexa Fluor® 647 (sc-365665 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365665 AF680) or Alexa Fluor® 790 (sc-365665 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-365665 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Wnt-7a (E-9) is recommended for detection of precursor and mature Wnt-7a 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

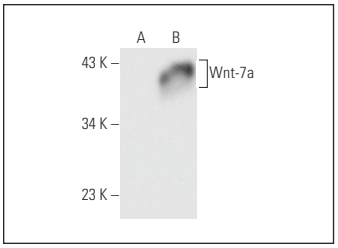
Wnt-7a (E-9) is also recommended for detection of precursor and mature Wnt-7a in additional species, including equine, canine, porcine and avian.

Suitable for use as control antibody for Wnt-7a siRNA (h): sc-41114, Wnt-7a siRNA (m): sc-41115, Wnt-7a shRNA Plasmid (h): sc-41114-SH, Wnt-7a shRNA Plasmid (m): sc-41115-SH, Wnt-7a shRNA (h) Lentiviral Particles: sc-41114-V and Wnt-7a shRNA (m) Lentiviral Particles: sc-41115-V.

Molecular Weight of Wnt-7a: 39 kDa.

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

DATA



Wnt-7a (E-9): sc-365665. 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. Aprato, J., et al. 2020. Myrf guides target gene selection of transcription factor Sox10 during oligodendroglial development. Nucleic Acids Res. 48: 1254-1270.
2. Zhang, W., et al. 2020. The secretome of human dental pulp stem cells protects myoblasts from hypoxia-induced injury via the Wnt/β-catenin pathway. Int. J. Mol. Med. 45: 1501-1513.
3. Kacham, S., et al. 2021. Human umbilical cord-derived mesenchymal stem cells promote corneal epithelial repair *in vitro*. Cells 10: 1254.
4. Ouji, Y., et al. 2022. Impaired differentiation potential of CD34-positive cells derived from mouse hair follicles after long-term culture. Sci. Rep. 12: 11011.
5. Ming, W.H., et al. 2023. Pregnane X receptor activation alleviates renal fibrosis in mice via interacting with p53 and inhibiting the Wnt7a/β-catenin signaling. Acta Pharmacol. Sin. 44: 2075-2090.

RESEARCH USE

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