SANTA CRUZ BIOTECHNOLOGY, INC.

Wnt-5a (A-5): sc-365370

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Wnt genes belong to a family of protooncogenes with at least 13 known members that are expressed in species ranging from *Drosophila* to human. The name Wnt denotes the relationship of this family to the *Drosophila* segment polarity gene "wingless" and to its vertebrate ortholog, Int1, a mouse proto-oncogene. Transcription of Wnt family genes appears to be developmentally regulated in a precise temporal and spatial manner. The Wnt genes encode cysteine-rich putative glycoproteins, which have features typical of secreted growth factors. Northern blot analysis detects expression of Wnt-5a in brain, lung and heart. At least five distinct Wnt-5a transcripts are observed, which are due to transcript variability 5' to the initiation methionine. *In situ* hybridization detects a complex spatial and temporal pattern of Wnt-5a in the mouse, including expression in the developing central nervous system, limbs, facial processes and the posterior region of the fetus. Human frizzled-5 is the receptor for the Wnt-5a ligand. It is suggested that Wnt-5a augments primitive hematopoietic development *in vivo* and represents an *in vivo* regulator of hematopoietic stem cell function in the human.

CHROMOSOMAL LOCATION

Genetic locus: WNT5A (human) mapping to 3p14.3; Wnt5a (mouse) mapping to 14 A3.

SOURCE

Wnt-5a (A-5) is a mouse monoclonal antibody raised against amino acids 23-80 mapping near the N-terminus of Wnt-5a of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Wnt-5a (A-5) is available conjugated to agarose (sc-365370 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365370 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365370 PE), fluorescein (sc-365370 FITC), Alexa Fluor® 488 (sc-365370 AF488), Alexa Fluor® 546 (sc-365370 AF546), Alexa Fluor® 594 (sc-365370 AF594) or Alexa Fluor® 647 (sc-365370 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365370 AF680) or Alexa Fluor® 790 (sc-365370 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Wnt-5a (A-5) is recommended for detection of Wnt-5a 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).

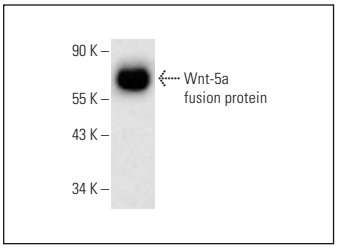
Suitable for use as control antibody for Wnt-5a siRNA (h): sc-41112, Wnt-5a siRNA (m): sc-41113, Wnt-5a shRNA Plasmid (h): sc-41112-SH, Wnt-5a shRNA Plasmid (m): sc-41113-SH, Wnt-5a shRNA (h) Lentiviral Particles: sc-41112-V and Wnt-5a shRNA (m) Lentiviral Particles: sc-41113-V.

Molecular Weight of Wnt-5a: 39 kDa.

STORAGE

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

DATA



Wnt-5a (A-5): sc-365370. Western blot analysis of full length human recombinant Wnt-5a fusion protein.

SELECT PRODUCT CITATIONS

1. Bordonaro, M., et al. 2011. A switch from canonical to noncanonical Wnt signaling mediates drug resistance in colon cancer cells. PLoS ONE 6: e27308.
2. Li, X., et al. 2013. Expression of Wnt5a and its receptor Fzd2 is changed in the spinal cord of adult amyotrophic lateral sclerosis transgenic mice. Int. J. Clin. Exp. Pathol. 6: 1245-1260.
3. Li, L., et al. 2014. Epigenetic identification of receptor tyrosine kinase-like orphan receptor 2 as a functional tumor suppressor inhibiting β-catenin and Akt signaling but frequently methylated in common carcinomas. Cell. Mol. Life Sci. 71: 2179-2192.
4. Herzog, J., et al. 2015. Whole-transcriptome gene expression profiling in an epidermolysis bullosa simplex Dowling-Meara model keratinocyte cell line uncovered novel, potential therapeutic targets and affected pathways. BMC Res. Notes 8: 785.
5. Kovacs, D., et al. 2016. The role of Wnt/β-catenin signaling pathway in melanoma epithelial-to-mesenchymal-like switching: evidences from patients-derived cell lines. Oncotarget 7: 43295-43314.
6. Ozeki, N., et al. 2016. Autophagy-related gene 5 and Wnt5 signaling pathway requires differentiation of embryonic stem cells into odontoblast-like cells. Exp. Cell Res. 341: 92-104.
7. Zhang, Y., et al. 2016. MicroRNA-129-5p inhibits vascular smooth muscle cell proliferation by targeting Wnt5a. Exp. Ther. Med. 12: 2651-2656.
8. Ozeki, N., et al. 2017. Gelatin scaffold combined with bone morphogenetic protein-4 induces odontoblast-like cell differentiation involving integrin profile changes, autophagy-related gene 10, and Wnt5 sequentially in human induced pluripotent stem cells. Differentiation 93: 1-14.

RESEARCH USE

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