

Wnt-3a (YY-7): sc-80457

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-3a is an intercellular signaling molecule that mediates cytoskeletal reorganization and regulates hippocampal development. Human Wnt-3a is 96% homologous to mouse Wnt-3a protein and 84% homologous to human Wnt-3 protein. The human Wnt-3a gene clusters with the Wnt-14 gene at chromosome 1q42.

REFERENCES

1. Shibamoto, S., et al. 1998. Cytoskeletal reorganization by soluble Wnt-3a protein signalling. *Genes Cells* 3: 659-670.
2. Kuhl, M., et al. 2000. The Wnt/ Ca^{2+} pathway: a new vertebrate Wnt signaling pathway takes shape. *Trends Genet.* 16: 279-283.
3. Lee, S.M., et al. 2000. A local Wnt-3a signal is required for development of the mammalian hippocampus. *Development* 127: 457-467.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606359. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. LocusLink Report (LocusID: 89780). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Wnt3a (mouse) mapping to 11 B1.3.

SOURCE

Wnt-3a (YY-7) is a rat monoclonal antibody raised against full length recombinant Wnt-3a of mouse origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} in 1.0 ml of PBS with < 0.1% sodium azide and protein stabilizer. Also available azide-free for neutralization, sc-80457 L, 100 μ g/0.1 ml.

APPLICATIONS

Wnt-3a (YY-7) is recommended for detection of Wnt-3a of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Wnt-1, Wnt-4 or Wnt-5a.

Suitable for use as control antibody for Wnt-3a siRNA (m): sc-41109, Wnt-3a shRNA Plasmid (m): sc-41109-SH and Wnt-3a shRNA (m) Lentiviral Particles: sc-41109-V.

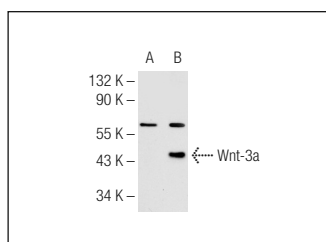
Molecular Weight of Wnt-3a: 39 kDa.

Positive Controls: Wnt-3a (m): 293 Lysate: sc-179755.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

DATA



Wnt-3a (YY-7): sc-80457. Western blot analysis of Wnt-3a expression in non-transfected: sc-110760 (A) and mouse Wnt-3a transfected: sc-179755 (B) 293 whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, L., et al. 2020. MiR-23b functions as an oncogenic miRNA by down-regulating Mcl-1S in lung cancer cell line A549. *J. Biochem. Mol. Toxicol.* 34: e22494.
2. Siracusa, R., et al. 2021. Epigallocatechin-3-gallate modulates postoperative pain by regulating biochemical and molecular pathways. *Int. J. Mol. Sci.* 22: 6879.
3. D'Amico, R., et al. 2021. Wnt/ β -catenin pathway in experimental model of fibromyalgia: role of Hidrox[®]. *Biomedicines* 9: 1683.
4. Genovese, T., et al. 2022. Resveratrol inhibition of the WNT/ β -catenin pathway following discogenic low back pain. *Int. J. Mol. Sci.* 23: 4092.
5. Interdonato, L., et al. 2023. Açai berry administration promotes wound healing through Wnt/ β -catenin pathway. *Int. J. Mol. Sci.* 24: 834.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.