SANTA CRUZ BIOTECHNOLOGY, INC.

Wnt-3a (3A6): sc-136163

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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-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 1q42.13.

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.
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CHROMOSOMAL LOCATION

Genetic locus: WNT3A (human) mapping to 1q42.13; Wnt3a (mouse) mapping to 11 B1.3.

SOURCE

Wnt-3a (3A6) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 19-352 of Wnt-3a of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2a} in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and 1% glycerol.

APPLICATIONS

Wnt-3a (3A6) is recommended for detection of Wnt-3a of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Wnt-3a siRNA (h): sc-41108, Wnt-3a siRNA (m): sc-41109, Wnt-3a shRNA Plasmid (h): sc-41108-SH, Wnt-3a shRNA Plasmid (m): sc-41109-SH, Wnt-3a shRNA (h) Lentiviral Particles: sc-41108-V and Wnt-3a shRNA (m) Lentiviral Particles: sc-41109-V.

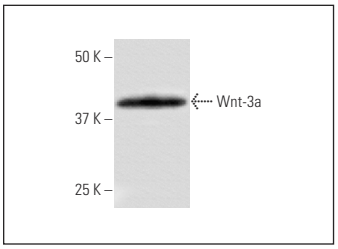
Molecular Weight of Wnt-3a: 39 kDa.

Positive Controls: A549 cell lysate: sc-2413.

STORAGE

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

DATA



Wnt-3a (3A6): sc-136163. Western blot analysis of Wnt-3a expression in A549 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Berendsen, A.D., et al. 2011. Modulation of canonical Wnt signaling by the extracellular matrix component biglycan. Proc. Natl. Acad. Sci. USA 108: 17022-17027.
2. Ling, D.J., et al. 2015. MicroRNA-145 inhibits lung cancer cell metastasis. Mol. Med. Rep. 11: 3108-3114.
2. Eterno, V., et al. 2016. AurkA controls self-renewal of breast cancer-initiating cells promoting Wnt-3a stabilization through suppression of miR-128. Sci. Rep. 6: 28436.
4. Mukherjee, S., et al. 2017. A small Insulinomimetic molecule also improves Insulin sensitivity in diabetic mice. PLoS ONE 12: e0169809.
5. Yuan, G., et al. 2018. Long noncoding RNA CAT104 promotes cell viability, migration, and invasion in gastric carcinoma cells through activation of microRNA-381-inhibiting zinc finger E-box-binding homeobox 1 (ZEB1) expression. Oncol. Res. 26: 1037-1046.
6. Carpino, G., et al. 2018. Hepatic stem/progenitor cell activation differs between primary sclerosing and primary biliary cholangitis. Am. J. Pathol. 188: 627-639.
7. Zhang, G., et al. 2018. Wnt/β-catenin signaling pathway contributes to isoflurane postconditioning against cerebral ischemia-reperfusion injury and is possibly related to the transforming growth factorβ1/Smad3 signaling pathway. Biomed. Pharmacother. 110: 420-430.
8. Xu, H., et al. 2019. Exosomes derived from PM2.5-treated lung cancer cells promote the growth of lung cancer via the Wnt3a/β-catenin pathway. Oncol. Rep. 41: 1180-1188.
9. Hu, X., et al. 2019. MiR-26b suppresses hepatocellular carcinoma development by negatively regulating ZNRD1 and Wnt/β-catenin signaling. Cancer Med. 8: 7359-7371.

RESEARCH USE

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