SANTA CRUZ BIOTECHNOLOGY, INC.

Axin (2B11): sc-293190

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

β-catenin is a component of both the cadherin cell adhesion system and the Wnt signaling pathway. Wnt signaling increases the amount of β-catenin by preventing its ubiquitination and degradation, allowing its direct interaction with transcription factors of the lymphoid enhancer factor/T cell factor family, and modulation of gene expression. Axin is involved in the degradation of β-catenin by acting as a scaffold to form a complex between β-catenin, adenomatous polyposis coli (APC) and GSK-3β. APC, which is phosphorylated by GSK-3β, induces degradation of β-catenin, thus inhibiting Wnt signal transduction. Conductin is 45% identical to Axin and appears to play a similar role to Axin in the Wnt signaling pathway.

REFERENCES

1. Hulsken, J., et al. 1994. E-cadherin and APC compete for the interaction with β-catenin and the cytoskeleton. J. Cell Biol. 127: 2061-2069.
2. Behrens, J., et al. 1996. Functional interaction of β-catenin with the transcription factor LEF-1. Nature 382: 638-642.
3. Aberle, H., et al. 1997. β-catenin is a target for the ubiquitin-proteasome pathway. EMBO J. 16: 3797-3804.
4. Zeng, L., et al. 1997. The mouse fused locus encodes Axin, an inhibitor of the Wnt signaling pathway that regulates embryonic axis formation. Cell 90: 181-192.
5. Behrens, J., et al. 1998. Functional interaction of an Axin homolog, Conductin, with β-catenin, APC and GSK-3β. Science 280: 596-599.

CHROMOSOMAL LOCATION

Genetic locus: AXIN1 (human) mapping to 16p13.3.

SOURCE

Axin (2B11) is a mouse monoclonal antibody raised against amino acids 643-740 of Axin of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Axin (2B11) is recommended for detection of Axin of 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

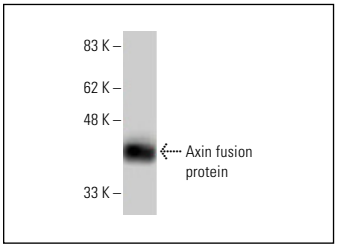
Suitable for use as control antibody for Axin siRNA (h): sc-41449, Axin shRNA Plasmid (h): sc-41449-SH and Axin shRNA (h) Lentiviral Particles: sc-41449-V.

Molecular Weight of Axin: 95 kDa.

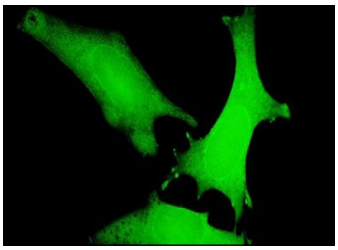
STORAGE

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

DATA



Axin (2B11): sc-293190. Western blot analysis of human recombinant Axin fusion protein.



Axin (2B11): sc-293190. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic, membrane and nuclear localization.

SELECT PRODUCT CITATIONS

1. Lee, S.R., et al. 2017. Characterization of age-related penile microvascular hemodynamic impairment using laser speckle contrast imaging: possible role of increased fibrogenesis. Physiol. Rep. 5: e13481.
2. Reyes, M., et al. 2020. Nuclear accumulation of β-catenin is associated with endosomal sequestration of the destruction complex and increased activation of Rab5 in oral dysplasia. FASEB J. 34: 4009-4025.
3. Lee, E.J., et al. 2020. TAZ/Wnt-β-catenin/c-Myc axis regulates cystogenesis in polycystic kidney disease. Proc. Natl. Acad. Sci. USA 117: 29001-29012.
4. Liu, Y., et al. 2021. Shc3 promotes hepatocellular carcinoma stemness and drug resistance by interacting with β-catenin to inhibit its ubiquitin degradation pathway. Cell Death Dis. 12: 278.
5. Zhang, H., et al. 2021. ASPM promotes hepatocellular carcinoma pro-gression by activating Wnt/β-catenin signaling through antagonizing autophagy-mediated Dvl2 degradation. FEBS Open Bio 11: 2784-2799.
6. Banerjee, A., et al. 2022. Rotavirus-mediated suppression of miRNA-192 family and miRNA-181a activates Wnt/β-catenin signaling pathway: an *in vitro* study. Viruses 14: 558.
7. Zhou, L., et al. 2022. Hypoxia-induced lncRNA STEAP3-AS1 activates Wnt/β-catenin signaling to promote colorectal cancer progression by preventing m^6A-mediated degradation of STEAP3 mRNA. Mol. Cancer 21: 168.
8. Silva, P., et al. 2024. Tumor-derived hypoxic small extracellular vesicles promote endothelial cell migration and tube formation via ALS2/Rab5/β-catenin signaling. FASEB J. 38: e23716.

RESEARCH USE

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