SANTA CRUZ BIOTECHNOLOGY, INC.

Axin (R-20): sc-8568

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; Axin1 (mouse) mapping to 17 A3.3.

SOURCE

Axin (R-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Axin of rat origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8568 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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

APPLICATIONS

Axin (R-20) is recommended for detection of Axin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Axin (R-20) is also recommended for detection of Axin in additional species, including equine and porcine.

Suitable for use as control antibody for Axin siRNA (h): sc-41449, Axin siRNA (m): sc-41450, Axin shRNA Plasmid (h): sc-41449-SH, Axin shRNA Plasmid (m): sc-41450-SH, Axin shRNA (h) Lentiviral Particles: sc-41449-V and Axin shRNA (m) Lentiviral Particles: sc-41450-V.

Molecular Weight of Axin: 95 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, HeLa nuclear extract: sc-2120 or SK-N-SH cell lysate: sc-2410.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Miller, L., et al. 2001. Silencing of Wnt signaling and activation of multiple metabolic pathways in response to thyroid hormone-stimulated cell proliferation. Mol. Cell. Biol. 21: 6626-6639.
2. Lu, Z., et al. 2008. Protein encoded by the Axin(Fu) allele effectively down-regulates Wnt signaling but exerts a dominant negative effect on c-Jun N-terminal kinase signaling. J. Biol. Chem. 283: 13132-13139.
3. Matsui, C., et al. 2008. Identification of a link between the SAMP repeats of adenomatous polyposis coli tumor suppressor and the Src homology 3 domain of DDEF. J. Biol. Chem. 283: 33006-33020.