SANTA CRUZ BIOTECHNOLOGY, INC.

Axin siRNA (m): sc-41450

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 (mouse) mapping to 17 A3.3.

PRODUCT

Axin siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Axin shRNA Plasmid (m): sc-41450-SH and Axin shRNA (m) Lentiviral Particles: sc-41450-V as alternate gene silencing products.

For independent verification of Axin (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-41450A, sc-41450B and sc-41450C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Axin siRNA (m) is recommended for the inhibition of Axin expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Axin gene expression knockdown using RT-PCR Primer: Axin (m)-PR: sc-41450-PR (20 µl, 513 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Haÿ, E., et al. 2009. N-cadherin interacts with Axin and LRP5 to negatively regulate Wnt/β-catenin signaling, osteoblast function, and bone formation. Mol. Cell. Biol. 29: 953-964.
2. Haÿ, E., et al. 2012. Peptide-based mediated disruption of N-cadherin-LRP5/6 interaction promotes Wnt signaling and bone formation. J. Bone Miner. Res. 27: 1852-1863.
3. Shi, X., et al. 2019. Zbed3 promotes proliferation and invasion of lung cancer partly through regulating the function of Axin-GSK3β complex. J. Cell. Mol. Med. 23: 1014-1021.
4. Zhang, Y., et al. 2019. Axin-1 binds to caveolin-1 to regulate the LPS-induced inflammatory response in AT-I cells. Biochem. Biophys. Res. Commun. 513: 261-268.

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.