SANTA CRUZ BIOTECHNOLOGY, INC.

Anillin siRNA (m): sc-61971

BACKGROUND

Anillin, also known as scraps homolog, is an evolutionary conserved Actin binding protein required for cytokinesis that was first identified in *Drosophila melanogaster*. Anillin is an ubiquitously expressed protein with highest expression levels in the central nervous system. It is predominantly found in the nucleus, and it localizes to the cleavage furrow during cytokinesis, forming a ring with the help of Rac GTPase. During cytokinesis, Anillin interacts with CD2AP and functions to concentrate Rho A and maintain the localization of active Myosin. In Anillin knockout cells the cleavage furrow fails to complete ingression. Anillin expression levels fluctuate with the cell cycle, peaking in mitosis. Before the cell exits into G_1, Anillin associates with E-cadherin and is ubiquitinated by the anaphase-promoting complex/cyclosome (APC/C). APC/C recognizes the D-box domain at the N-terminal region of Anillin. Anillin is commonly overexpressed in tumors and may serve as a potential biomarker.

REFERENCES

1. Suzuki, C., et al. 2005. ANLN plays a critical role in human lung carcinogenesis through the activation of Rho A and by involvement in the phosphoinositide 3-kinase/AKT pathway. Cancer Res. 65: 11314-11325.
2. Hall, P.A., et al. 2005. The Septin-binding protein Anillin is overexpressed in diverse human tumors. Clin. Cancer Res. 11: 6780-6786.
3. Mollinari, C., et al. 2005. Ablation of PRC1 by small interfering RNA demonstrates that cytokinetic abscission requires a central spindle bundle in mammalian cells, whereas completion of furrowing does not. Mol. Biol. Cell 16: 1043-1055.
4. Monzo, P., et al. 2005. Clues to CD2-associated protein involvement in cytokinesis. Mol. Biol. Cell 16: 2891-2902.
5. Zhao, W.M. and Fang, G. 2005. MGC Rac GAP controls the assembly of the contractile ring and the initiation of cytokinesis. Proc. Natl. Acad. Sci. USA 102: 13158-13163.

CHROMOSOMAL LOCATION

Genetic locus: Anln (mouse) mapping to 9 A3.

PRODUCT

Anillin 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 Anillin shRNA Plasmid (m): sc-61971-SH and Anillin shRNA (m) Lentiviral Particles: sc-61971-V as alternate gene silencing products.

For independent verification of Anillin (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-61971A, sc-61971B and sc-61971C.

PROTOCOLS

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

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

Anillin siRNA (m) is recommended for the inhibition of Anillin 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.

GENE EXPRESSION MONITORING

Anillin (B-10): sc-271814 is recommended as a control antibody for monitoring of Anillin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Anillin gene expression knockdown using RT-PCR Primer: Anillin (m)-PR: sc-61971-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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