SANTA CRUZ BIOTECHNOLOGY, INC.

Anillin (S-20): sc-54859

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 a 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 gets 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 RHOA 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. Zhao, W.M. and Fang, G. 2005. Anillin is a substrate of anaphase-promoting complex/cyclosome (APC/C) that controls spatial contractility of myosin during late cytokinesis. J. Biol. Chem. 280: 33516-33524.
4. 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.
5. Monzo, P., et al. 2005. Clues to CD2-associated protein involvement in cytokinesis. Mol. Biol. Cell 16: 2891-2902.
6. Zhao, W.M., et al. 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 (human) mapping to 7p14.2; Anln (mouse) mapping to 9 A3.

SOURCE

Anillin (S-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Anillin of human 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-54859 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Anillin (S-20) is recommended for detection of Anillin 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)], 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).

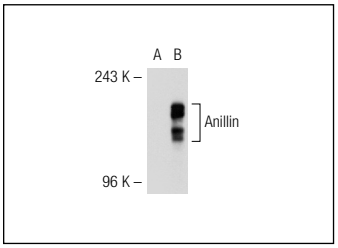
Anillin (S-20) is also recommended for detection of Anillin in additional species, including bovine and porcine.

Suitable for use as control antibody for Anillin siRNA (h): sc-61970, Anillin siRNA (m): sc-61971, Anillin shRNA Plasmid (h): sc-61970-SH, Anillin shRNA Plasmid (m): sc-61971-SH, Anillin shRNA (h) Lentiviral Particles: sc-61970-V and Anillin shRNA (m) Lentiviral Particles: sc-61971-V.

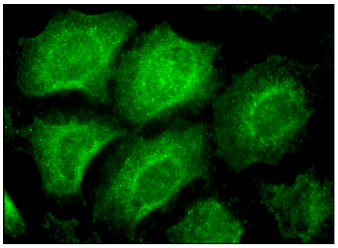
Molecular Weight of Anillin: 190 kDa.

Positive Controls: Anillin (m): 293T Lysate: sc-118400.

DATA



Anillin (S-20): sc-54859. Western blot analysis of Anillin expression in non-transfected: sc-117752 (**A**) and mouse Anillin transfected: sc-118400 (**B**) 293T whole cell lysates.



Anillin (S-20): sc-54859. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoskeletal localization.

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.