

Anillin (B-10): sc-271814

BACKGROUND

Anillin, also known as scraps homolog, is an evolutionarily 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 G₁, 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.

CHROMOSOMAL LOCATION

Genetic locus: ANLN (human) mapping to 7p14.2; Anln (mouse) mapping to 9 A3.

SOURCE

Anillin (B-10) is a mouse monoclonal antibody raised against amino acids 641-940 mapping near the C-terminus of Anillin of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Anillin (B-10) is available conjugated to agarose (sc-271814 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271814 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271814 PE), fluorescein (sc-271814 FITC), Alexa Fluor® 488 (sc-271814 AF488), Alexa Fluor® 546 (sc-271814 AF546), Alexa Fluor® 594 (sc-271814 AF594) or Alexa Fluor® 647 (sc-271814 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271814 AF680) or Alexa Fluor® 790 (sc-271814 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Anillin (B-10) is recommended for detection of Anillin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 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.

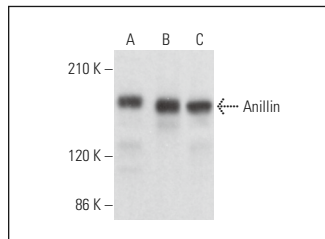
Molecular Weight of Anillin: 190 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, NIH/3T3 whole cell lysate: sc-2210 or c4 whole cell lysate: sc-364186.

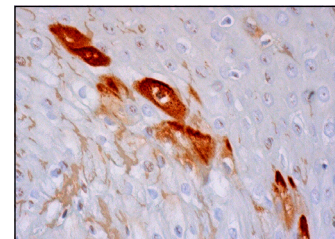
STORAGE

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

DATA



Anillin (B-10): sc-271814. Western blot analysis of Anillin expression in NIH/3T3 (A), DU 145 (B) and c4 (C) whole cell lysates.



Anillin (B-10): sc-271814. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing cytoplasmic staining of subset of squamous epithelial cells.

SELECT PRODUCT CITATIONS

- Wang, G., et al. 2016. Overexpression of Anillin (ANLN) is correlated with colorectal cancer progression and poor prognosis. *Cancer Biomark.* 16: 459-465.
- Gupta, D.K., et al. 2019. Septin and Ras regulate cytokinetic abscission in detached cells. *Cell Div.* 14: 8.
- Hu, X.T., et al. 2020. Overexpression of progerin results in impaired proliferation and invasion of non-small cell lung cancer cells. *Oncotargets Ther.* 13: 2629-2642.
- Wee, K., et al. 2020. Snail induces epithelial cell extrusion by regulating RhoA contractile signaling and cell-matrix adhesion. *J. Cell Sci.* 133: jcs235622.
- Yang, G., et al. 2021. Molecular basis of functional exchangeability between ezrin and other Actin-membrane associated proteins during cytokinesis. *Exp. Cell Res.* 403: 112600.
- Gupta, S., et al. 2021. Enhanced RhoA signalling stabilizes E-cadherin in migrating epithelial monolayers. *J. Cell Sci.* 134: jcs258767.
- Panagiotou, T.C., et al. 2022. An Anillin-CIN85-SEPT9 complex promotes intercellular bridge maturation required for successful cytokinesis. *Cell Rep.* 40: 111274.
- Cao, Y.F., et al. 2023. Targeting USP10 induces degradation of oncogenic ANLN in esophageal squamous cell carcinoma. *Cell Death Differ.* 30: 527-543.
- Li, S., et al. 2023. Characterization of genomic instability-related genes predicts survival and therapeutic response in lung adenocarcinoma. *BMC Cancer* 23: 1115.

RESEARCH USE

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

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