

# Rad21 (H-12): sc-166973

## BACKGROUND

Rad21 is one of the major cohesin subunits that holds sister chromatids together until anaphase, when proteolytic cleavage by separase, a caspase-like enzyme, allows chromosomal separation. Rad21 interacts with Rec8 to form a cohesin complex that functions in sister chromatid alignment. Rad21 is also involved in the repair of double-strand breaks in DNA and is essential for mitotic growth. Rad21 undergoes a C-terminal cleavage induced by diverse stimuli right before apoptosis. The cleavage product migrates to the cytoplasm where it is involved in early events in the apoptotic pathway and amplifies the cell death signal in a positive feedback manner. The Rad21 gene is related to the invasion and metastasis of cancer cells, and Rad21 is a potential target for cancer therapeutics that may enhance the antitumor activity of chemotherapeutic agents acting through the induction of DNA damage.

## CHROMOSOMAL LOCATION

Genetic locus: RAD21 (human) mapping to 8q24.11; Rad21 (mouse) mapping to 15 C.

## SOURCE

Rad21 (H-12) is a mouse monoclonal antibody raised against amino acids 143-352 mapping within an internal region of Rad21 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## 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.

## APPLICATIONS

Rad21 (H-12) is recommended for detection of Rad21 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Rad21 siRNA (h): sc-72049, Rad21 siRNA (m): sc-72050, Rad21 shRNA Plasmid (h): sc-72049-SH, Rad21 shRNA Plasmid (m): sc-72050-SH, Rad21 shRNA (h) Lentiviral Particles: sc-72049-V and Rad21 shRNA (m) Lentiviral Particles: sc-72050-V.

Molecular Weight of Rad21: 68 kDa.

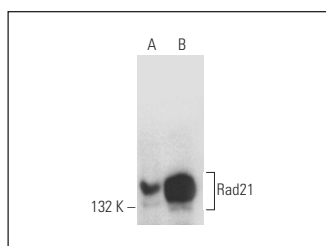
MMolecular Weight of phosphorylated Rad21: 110-120 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, MOLT-4 nuclear extract: sc-2151 or T24 cell lysate: sc-2292.

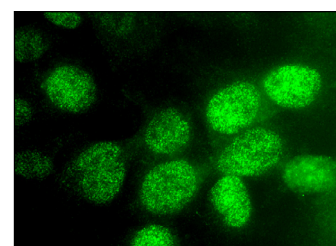
## RECOMMENDED SUPPORT REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



Rad21 (H-12): sc-166973. Western blot analysis of Rad21 expression in HeLa (A) and MOLT-4 (B) nuclear extracts.



Rad21 (H-12): sc166973. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

1. Yu, L., et al. 2011. Knockdown of Mad2 induces osteosarcoma cell apoptosis-involved Rad21 cleavage. *J. Orthop. Sci.* 16: 814-820.
2. Cunningham, C.E., et al. 2016. Therapeutic relevance of the protein phosphatase 2A in cancer. *Oncotarget* 7: 61544-61561.
3. Luppino, J.M., et al. 2020. Cohesin promotes stochastic domain intermingling to ensure proper regulation of boundary-proximal genes. *Nat. Genet.* 52: 840-848.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.