SANTA CRUZ BIOTECHNOLOGY, INC.

# RINT-1 (C-15): sc-19406

## BACKGROUND

Rad50, a structural maintenance of chromosomes (SMC) protein family member, participates in a variety of cellular processes, including DNA double-strand break repair, cell cycle checkpoint activation, telomere maintenance, and meiosis. In addition to its ability to form a complex with the DNA double-strand break repair proteins Mre11 and NBS1, Rad50 may interact with other cellular proteins to execute its full range of biological activities. A novel protein named RINT-1 was identified using the C-terminal region of human Rad50 as the bait in a yeast two-hybrid screen. Human RINT-1 shares sequence homology with a novel protein identified in *Drosophila melanogaster*. The conserved central and C-terminal regions of RINT-1 are required for its interaction with Rad50. While Rad50 and RINT-1 are both expressed throughout the cell cycle, RINT-1 specifically binds to Rad50 only during late S and $G_2$/M phases, suggesting that RINT-1 may be involved in cell cycle regulation. RINT-1 may also play a role in the regulation of cell cycle control after DNA damage.

## REFERENCES


1. Alani, E., Subbiah, S., and Kleckner, N. 1989. The yeast RAD50 gene encodes a predicted 153 kDa protein containing a purine nucleotide-binding domain and two large heptad-repeat regions. Genetics 122: 47-57.
2. Deng, C.X. and Brodie, S.G. 2000. Roles of BRCA1 and its interacting proteins. Bioessays 22: 728-737.
3. Xiao, J., Liu, C.C., Chen, P.L., and Lee, W.H. 2001. RINT-1, a novel Rad50-interacting protein, participates in radiation-induced $G_2$/M checkpoint control. J. Biol. Chem. 276: 6105-6111.
4. Desai-Mehta, A., Cerosaletti, K.M., and Concannon, P. 2001. Distinct functional domains of nibrin mediate Mre11 binding, focus formation, and nuclear localization. Mol. Cell. Biol. 21: 2184-2191.
5. Trujillo, K.M. and Sung, P. 2001. DNA structure-specific nuclease activities in the *Saccharomyces cerevisiae* Rad50/Mre11 complex. J. Biol. Chem. 276: 35458-35464.


## CHROMOSOMAL LOCATION

Genetic locus: RINT1 (human) mapping to 7q22.3.

## SOURCE

RINT-1 (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of RINT-1 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-19406 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

RINT-1 (C-15) is recommended for detection of RINT-1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

RINT-1 (C-15) is also recommended for detection of RINT-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for RINT-1 siRNA (h): sc-38238, RINT-1 shRNA Plasmid (h): sc-38238-SH and RINT-1 shRNA (h) Lentiviral Particles: sc-38238-V.

Molecular Weight of RINT-1: 87 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## 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.