SANTA CRUZ BIOTECHNOLOGY, INC.

# RINT-1 siRNA (h): sc-38238

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*The Power to Question*

## 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 G2/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


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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.

## PRODUCT

RINT-1 siRNA (h) 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 RINT-1 shRNA Plasmid (h): sc-38238-SH and RINT-1 shRNA (h) Lentiviral Particles: sc-38238-V as alternate gene silencing products.

For independent verification of RINT-1 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-38238A, sc-38238B and sc-38238C.

## 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

RINT-1 siRNA (h) is recommended for the inhibition of RINT-1 expression in human 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RINT-1 gene expression knockdown using RT-PCR Primer: RINT-1 (h)-PR: sc-38238-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.