SANTA CRUZ BIOTECHNOLOGY, INC.

# ZNRD1 siRNA (h): sc-77010

## BACKGROUND

ZNRD1 (zinc ribbon domain containing 1), also known as TEX6, Rpa12 or hZR14, is a 126 amino acid protein that localizes to the nucleolus and contains one TFIIS-type zinc finger. Existing as a component of the multi-protein Pol I (RNA polymerase I) complex, ZNRD1 functions as a DNA-dependent RNA polymerase that catalyzes the transcription of DNA into RNA and plays a role in the synthesis of ribosomal RNA (rRNA) precursors. The gene encoding ZNRD1 maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome. Deletion of a portion of the q arm of chromosome 6 is associated with early onset intestinal cancer, suggesting the presence of a cancer susceptibility locus. Additionally, Porphyria cutanea tarda, Parkinson's disease, Stickler syndrome and a susceptibility to bipolar disorder are all associated with genes that map to chromosome 6.

## REFERENCES


1. Lepourcelet, M., et al. 1996. Systematic sequencing of the human HLA-A/HLA-F region: establishment of a cosmid contig and identification of a new gene cluster within 37 kb of sequence. Genomics 37: 316-326.
2. Fan, W., et al. 2000. A new zinc ribbon gene (ZNRD1) is cloned from the human MHC class I region. Genomics 63: 139-141.
3. Coriton, O., et al. 2000. Transcriptional analysis of the 69-kb sequence centromeric to HLA-J: a dense and complex structure of five genes. Mamm. Genome 11: 1127-1131.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607525. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Hong, L., et al. 2007. DARPP-32 mediates multidrug resistance of gastric cancer through regulation of P-gp and ZNRD1. Cancer Invest. 25: 699-705.
6. Guo, W., et al. 2008. ZNRD1 might mediate UV irradiation related DNA damage and repair in human esophageal cancer cells by regulation of ERCC1. Dis. Esophagus 21: 730-736.
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## CHROMOSOMAL LOCATION

Genetic locus: ZNRD1 (human) mapping to 6p22.1.

## PRODUCT

ZNRD1 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 ZNRD1 shRNA Plasmid (h): sc-77010-SH and ZNRD1 shRNA (h) Lentiviral Particles: sc-77010-V as alternate gene silencing products.

For independent verification of ZNRD1 (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-77010A, sc-77010B and sc-77010C.

## 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

ZNRD1 siRNA (h) is recommended for the inhibition of ZNRD1 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.

## GENE EXPRESSION MONITORING

ZNRD1 (D-10): sc-393406 is recommended as a control antibody for monitoring of ZNRD1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ZNRD1 gene expression knockdown using RT-PCR Primer: ZNRD1 (h)-PR: sc-77010-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.

## PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.