

# RTCD1 siRNA (h): sc-88222

## BACKGROUND

RTCD1 (RNA terminal phosphate cyclase domain 1), also known as RPC (RNA 3'-terminal phosphate cyclase) or RTC1, is a 366 amino acid nuclear protein that belongs to the RNA 3'-terminal cyclase family and type 1 sub-family. Ubiquitously expressed, RTCD1 catalyzes the conversion of 3'-phosphate to a 2',3'-cyclic phosphodiester at the end of RNA. RTCD1 exists as a monomer and undergoes alternative splicing, resulting in two isoforms. The gene encoding RTCD1 maps to human chromosome 1 and mouse chromosome 3 G1. Human chromosome 1 spans 260 million base pairs, contains over 3,000 genes, comprises nearly 8% of the human genome and houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome.

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## CHROMOSOMAL LOCATION

Genetic locus: RTCA (human) mapping to 1p21.2.

## PRODUCT

RTCD1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RTCD1 shRNA Plasmid (h): sc-88222-SH and RTCD1 shRNA (h) Lentiviral Particles: sc-88222-V as alternate gene silencing products.

For independent verification of RTCD1 (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-88222A, sc-88222B and sc-88222C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

RTCD1 siRNA (h) is recommended for the inhibition of RTCD1 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  $\mu$ M in 66  $\mu$ l. 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 RTCD1 gene expression knockdown using RT-PCR Primer: RTCD1 (h)-PR: sc-88222-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.