

# Cyclophilin C siRNA (h): sc-91670

## BACKGROUND

Cyclophilins are conserved, ubiquitous and abundant cytosolic peptidyl-prolyl *cis-trans* isomerases that accelerate the isomerization of XaaPro peptide bonds and the refolding of proteins. Human cyclophilin A (CyPA), an intracellular protein consisting of 165 amino acids, is the target of cyclosporin A (CsA) and is encoded by a single unique gene conserved between yeast and humans. Cyclophilin B (CyPB) is secreted in biological fluids such as blood and milk, and binds to a specific receptor present on human peripheral blood lymphocytes, and is expressed in Jurkat cells, a line of human lymphoblasts. Cyclophilin C (CyPC), also known as PPIC (peptidylprolyl isomerase C) or Rotamase C, is a 212 amino acid cytoplasmic protein that is ubiquitously expressed and is a member of the cyclophilin-type PPIase family. Containing a single PPIase cyclophilin-type domain, Cyclophilin C catalyzes the *cis-trans* isomerization of proline imidic peptide bonds in oligopeptides.

## REFERENCES

1. Ke, H., Zhao, Y., Luo, F., Weissman, I. and Friedman, J. 1993. Crystal structure of murine cyclophilin C complexed with immunosuppressive drug cyclosporin A. *Proc. Natl. Acad. Sci. USA* 90: 11850-11854.
2. Schneider, H., Charara, N., Schmitz, R., Wehrli, S., Mikol, V., Zurini, M.G., Quesniaux, V.F. and Movva, N.R. 1994. Human cyclophilin C: primary structure, tissue distribution, and determination of binding specificity for cyclosporins. *Biochemistry* 33: 8218-8224.
3. Montague, J.W., Gaido, M.L., Frye, C. and Cidlowski, J.A. 1994. A calcium-dependent nuclease from apoptotic rat thymocytes is homologous with cyclophilin. Recombinant cyclophilins A, B, and C have nuclease activity. *J. Biol. Chem.* 269: 18877-18880.

## CHROMOSOMAL LOCATION

Genetic locus: PPIC (human) mapping to 5q23.2.

## PRODUCT

Cyclophilin C 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 Cyclophilin C shRNA Plasmid (h): sc-91670-SH and Cyclophilin C shRNA (h) Lentiviral Particles: sc-91670-V as alternate gene silencing products.

For independent verification of Cyclophilin C (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-91670A, sc-91670B and sc-91670C.

## 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

Cyclophilin C siRNA (h) is recommended for the inhibition of Cyclophilin C 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 Cyclophilin C gene expression knockdown using RT-PCR Primer: Cyclophilin C (h)-PR: sc-91670-PR (20  $\mu$ l, 429 bp). 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.