SANTA CRUZ BIOTECHNOLOGY, INC.

Cyclophilin G siRNA (h): sc-94752

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. Cyclophilin G, also known as CARS-Cyp (Clk-associating RS-cyclophilin), SRcyp (SR-cyclophilin), CASP10, PPIase G or Rotamase G, is a ubiquitously expressed member of the Moca family of cyclophilins. Localizing to the nucleus and, during interphase, nuclear speckles, Cyclophilin G contains an N-terminal cyclophilin-type domain, an acidic serine-rich region, five Cdc2-type phosphorylation sites and a series of serine-arginine repeats throughout the C-terminus. Cyclophilin G is phosphorylated during mitosis by the Cdc2-cyclin B complex, suggesting that its function is cell cycle-regulated. In addition, Cyclophilin G is capable of interacting with Pinin and the C-terminus of the largest subunit of RNA polymerase II (Pol II). Cyclophilin G may participate in pre-mRNA splicing by regulating the subnuclear localization of SR/SR-like protein family members.

REFERENCES

1. Nestel, F.P., et al. 1996. RS cyclophilins: identification of an NK-TR1-related cyclophilin. Gene 180: 151-155.
2. Giardina, S.L., et al. 1996. Association of the expression of an SR-cyclophilin with myeloid cell differentiation. Blood 87: 2269-2274.
3. Bourquin, J.P., et al. 1997. A serine/arginine-rich nuclear matrix cyclophilin interacts with the C-terminal domain of RNA polymerase II. Nucleic Acids Res. 25: 2055-2061.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606093. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Lin, C.L., et al. 2004. Over-expression of SR-cyclophilin, an interaction partner of nuclear pinin, releases SR family splicing factors from nuclear speckles. Biochem. Biophys. Res. Commun. 321: 638-647.

CHROMOSOMAL LOCATION

Genetic locus: PPIG (human) mapping to 2q31.1.

PRODUCT

Cyclophilin G 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 Cyclophilin G shRNA Plasmid (h): sc-94752-SH and Cyclophilin G shRNA (h) Lentiviral Particles: sc-94752-V as alternate gene silencing products.

For independent verification of Cyclophilin G (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-94752A, sc-94752B and sc-94752C.

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

Cyclophilin G siRNA (h) is recommended for the inhibition of Cyclophilin G 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

Cyclophilin G (8S5): sc-100699 is recommended as a control antibody for monitoring of Cyclophilin G 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 Cyclophilin G gene expression knockdown using RT-PCR Primer: Cyclophilin G (h)-PR: sc-94752-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.