SANTA CRUZ BIOTECHNOLOGY, INC.

Cyclophilin C siRNA (m): sc-142660

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., et al. 1993. Crystal structure of murine cyclophilin C complexed with immunosuppressive drug Cyclosporin A. Proc. Natl. Acad. Sci. USA 90: 11850-11854.
2. Schneider, H., et al. 1994. Human cyclophilin C: primary structure, tissue distribution, and determination of binding specificity for cyclosporins. Biochemistry 33: 8218-8224.
3. Montague, J.W., et al. 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.
4. Zav'yalov, V.P., et al. 1995. Some new aspects of molecular mechanisms of cyclosporin A effect on immune response. APMIS 103: 401-415.
5. Montague, J.W., et al. 1997. Native recombinant cyclophilins A, B, and C degrade DNA independently of peptidylprolyl *cis-trans*-isomerase activity. Potential roles of cyclophilins in apoptosis. J. Biol. Chem. 272: 6677-6684.

CHROMOSOMAL LOCATION

Genetic locus: Ppic (mouse) mapping to 18 D1.

PRODUCT

Cyclophilin C siRNA (m) is a pool of 2 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 C shRNA Plasmid (m): sc-142660-SH and Cyclophilin C shRNA (m) Lentiviral Particles: sc-142660-V as alternate gene silencing products.

For independent verification of Cyclophilin C (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-142660A and sc-142660B.

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 C siRNA (m) is recommended for the inhibition of Cyclophilin C expression in mouse 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 Cyclophilin C gene expression knockdown using RT-PCR Primer: Cyclophilin C (m)-PR: sc-142660-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.