

Cyclophilin E siRNA (h): sc-77069

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 E, also known as CyPE, Cyclophilin 33, CyP33, PPlase E or Rotamase E, is a ubiquitously expressed nuclear RNA-binding cyclophilin. It contains an N-terminal RNA binding domain (RRM) and a C-terminal cyclophilin domain. Cyclophilin E specifically binds to mRNA and, in accordance with this binding, the PPlase activity of Cyclophilin E is stimulated. In addition, Cyclophilin E can bind to the third PHD zinc finger domain of MLL (myeloid/lymphoid or mixed-lineage leukemia protein) and modify the effects of MLL on target genes. More specifically, the overexpression of Cyclophilin E is known to negatively regulate/inhibit the transcription of HoxC8 and HoxC9 genes. This inhibition occurs via the ability of Cyclophilin E to increase HDAC1 binding to the repression domain of MLL.

REFERENCES

1. Skrzny, M., et al. 2001. Cyclophilins of a novel subfamily interact with SNW/SKIP coregulator in *Dictyostelium discoideum* and *Schizosaccharomyces pombe*. *Biochim. Biophys. Acta* 1521: 146-151.
2. Fair, K., et al. 2001. Protein interactions of the MLL PHD fingers modulate MLL target gene regulation in human cells. *Mol. Cell. Biol.* 21: 3589-3597.
3. Anderson, M., et al. 2002. A new family of cyclophilins with an RNA recognition motif that interact with members of the trx/MLL protein family in *Drosophila* and human cells. *Dev. Genes Evol.* 212: 107-113.
4. Xia, Z.B., et al. 2003. MLL repression domain interacts with histone deacetylases, the polycomb group proteins HPC2 and BMI-1, and the corepressor C-terminal-binding protein. *Proc. Natl. Acad. Sci. USA* 100: 8342-8347.
5. Laidlaw, A.M., et al. 2006. Extent of over-expression of hepatocyte growth factor receptor in colorectal tumours is dependent on the choice of normaliser. *Biochem. Biophys. Res. Commun.* 341: 1017-1021.

CHROMOSOMAL LOCATION

Genetic locus: PPIE (human) mapping to 1p32.

PRODUCT

Cyclophilin E 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Cyclophilin E shRNA Plasmid (h): sc-77069-SH and Cyclophilin E shRNA (h) Lentiviral Particles: sc-77069-V as alternate gene silencing products.

For independent verification of Cyclophilin E (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-77069A, sc-77069B and sc-77069C.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Cyclophilin E siRNA (h) is recommended for the inhibition of Cyclophilin E 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 μ M in 60 μ 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.

GENE EXPRESSION MONITORING

Cyclophilin E (P-16): sc-70050 is recommended as a control antibody for monitoring of Cyclophilin E 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cyclophilin E gene expression knockdown using RT-PCR Primer: Cyclophilin E (h)-PR: sc-77069-PR (20 μ 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.