SANTA CRUZ BIOTECHNOLOGY, INC.

Cyclophilin E siRNA (m): sc-77070

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, PPIase 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 PPIase 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 Cy-clophilin E is known to negatively regulate/inhibit the transcription of HoxC8 and HoxC9 genes. This inhibition occurs via the ability of Cyclophilin E to in-crease HDAC1 binding to the repression domain of MLL.

REFERENCES

1. Skruzny, 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 (mouse) mapping to 4 D2.2.

PRODUCT

Cyclophilin E siRNA (m) 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 E shRNA Plasmid (m): sc-77070-SH and Cyclophilin E shRNA (m) Lentiviral Particles: sc-77070-V as alternate gene silencing products.

For independent verification of Cyclophilin E (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-77070A, sc-77070B and sc-77070C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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 E siRNA (m) is recommended for the inhibition of Cyclophilin E 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.

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 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 E gene expression knockdown using RT-PCR Primer: Cyclophilin E (m)-PR: sc-77070-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.