SANTA CRUZ BIOTECHNOLOGY, INC.

PCYOX1 siRNA (m): sc-76094

BACKGROUND

PCYOX1 (prenylcysteine oxidase 1), also known as prenylcysteine lyase or PCL1, is a 505 amino acid FAD-dependent thioether oxidase belonging to the prenylcysteine oxidase family. Ubiquitously expressed, PCYOX1 has been found to catalyze the degradation of prenylcysteine into free cysteines and a hydrophobic isoprenoid, and is released during the degradation of prenylated proteins. PCYOX1 specifically cleaves the thioether bond of prenyl-L-cysteines, such as farnesylcysteine and geranylgeranylcysteine. PCYOX1 is glycosylated at multiple N-glycosylation sites and is encoded by a gene that maps to human chromosome 2p13.3. PCYOX1 has recently been implied to play a significant role in atherogenesis, and may function as a VLDL (very low-density lipoprotein)-associated protein.

REFERENCES

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2. Nagase, T., et al. 1998. Prediction of the coding sequences of unidentified human genes. XII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 5: 355-364.
3. Tschantz, W.R., et al. 1999. Cloning, expression, and cellular localization of a human prenylcysteine lyase. J. Biol. Chem. 274: 35802-35808.
4. Tschantz, W.R., et al. 2001. Lysosomal prenylcysteine lyase is a FAD-dependent thioether oxidase. J. Biol. Chem. 276: 2321-2324.
5. Digits, J.A., et al. 2002. Stereospecificity and kinetic mechanism of human prenylcysteine lyase, an unusual thioether oxidase. J. Biol. Chem. 277: 41086-41093.
6. Mancone, C., et al. 2007. Proteomic analysis of human very low-density lipoprotein by two-dimensional gel electrophoresis and MALDI-TOF/TOF. Proteomics 7: 143-154.
7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610995. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
8. Banfi, C., et al. 2009. Proteomic analysis of human low-density lipoprotein reveals the presence of prenylcysteine lyase, a hydrogen peroxide-generating enzyme. Proteomics 9: 1344-1352.

CHROMOSOMAL LOCATION

Genetic locus: Pcyox1 (mouse) mapping to 6 D1.

PRODUCT

PCYOX1 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 PCYOX1 shRNA Plasmid (m): sc-76094-SH and PCYOX1 shRNA (m) Lentiviral Particles: sc-76094-V as alternate gene silencing products.

For independent verification of PCYOX1 (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-76094A, sc-76094B and sc-76094C.

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

PCYOX1 siRNA (m) is recommended for the inhibition of PCYOX1 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

PCYOX1 (25): sc-136391 is recommended as a control antibody for monitoring of PCYOX1 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 PCYOX1 gene expression knockdown using RT-PCR Primer: PCYOX1 (m)-PR: sc-76094-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.

PROTOCOLS

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