SANTA CRUZ BIOTECHNOLOGY, INC.

Selenoprotein I siRNA (m): sc-61517

BACKGROUND

Selenium is an essential trace element that is implicated in cancer prevention, immune system function, male fertility, cardiovascular disorder, and control of the aging. It is incorporated as selenocysteine into the primary structure of selenoproteins. Selenoproteins are essential to mammals and are responsible for most biomedical effects of dietary selenium. These proteins do not have common amino acid sequence motifs but do have a common stem-loop structure. Nutritional deficiency of selenium decreases selenoprotein concentrations and leads to pathologic conditions. Selenoprotein I is a multi-pass membrane, 397-amino acid protein that belongs to the CDP-alcohol phosphatidyltransferase class-I family and contains a selenocysteine at position 387, near the C-terminal domain.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 607915. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
2. Kryukov, G.V., Castellano, S., Novoselov, S.V., Lobanov, A.V., Zehtab, O., Guigó, R. and Gladyshev, V.N. 2003. Characterization of mammalian selenoproteomes. Science 300: 1439-1443.
3. Flohe, L. 2004. Selenium, selenoproteins and vision. Dev. Ophthalmol. 38: 89-102.
4. Stadtman, T.C. 2005. Selenoproteins—tracing the role of a trace element in protein function. PLoS Biol. 3: 421.

CHROMOSOMAL LOCATION

Genetic locus: Ept1 (mouse) mapping to 5 B1.

PRODUCT

elenoprotein I 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 Selenoprotein I shRNA Plasmid (m): sc-61517-SH and Selenoprotein I shRNA (m) Lentiviral Particles: sc-61517-V as alternate gene silencing products.

For independent verification of Selenoprotein I (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-61517A, sc-61517B and sc-61517C.

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

Selenoprotein I siRNA (m) is recommended for the inhibition of Selenoprotein I 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 Selenoprotein I gene expression knockdown using RT-PCR Primer: Selenoprotein I (m)-PR: sc-61517-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.