SANTA CRUZ BIOTECHNOLOGY, INC.

Peg10 siRNA (h): sc-89888

BACKGROUND

Peg10 (Paternally expressed gene 10), also known as EDR, KIAA1051, MAR2, MART2, MEF3L1 or RGAG3, is a 708 amino acid protein that localizes to both the nucleus and they cytoplasm and contains one CCHC-type zinc finger. Expressed in placenta, brain, kidney, liver, thymus, lung, ovary and spleen, Peg10 plays a role in cell growth promotion and apoptosis prevention and is, therefore, thought to be a potent factor in tumor formation and metastasis. Peg10 exists as two distinct isoforms, designated RF1 and RF1/RF2, which have distinctive active sites, but are both associated with cell growth and differentiation control. The gene encoding Peg10 maps to human chromosome 7, which houses over 1,000 genes and comprises nearly 5% of the human genome. Defects in some of the genes localized to chromosome 7 have been linked to Osteogenesis imperfecta, Williams-Beuren syndrome, Pendred syndrome, Lissencephaly, Citrullinemia and Shwachman-Diamond syndrome.

REFERENCES

1. Ono, R., et al. 2001. A retrotransposon-derived gene, PEG10, is a novel imprinted gene located on human chromosome 7q21. Genomics 73: 232-237.
2. Shigemoto, K., et al. 2001. Identification and characterisation of a developmentally regulated mammalian gene that utilises-1 programmed ribosomal frameshifting. Nucleic Acids Res. 29: 4079-4088.
3. Li, C.M., et al. 2006. PEG10 is a c-Myc target gene in cancer cells. Cancer Res. 66: 665-672.
4. Ono, R., et al. 2006. Deletion of Peg10, an imprinted gene acquired from a retrotransposon, causes early embryonic lethality. Nat. Genet. 38: 101-106.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609810. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Kainz, B., et al. 2007. Overexpression of the paternally expressed gene 10 (PEG10) from the imprinted locus on chromosome 7q21 in high-risk B-cell chronic lymphocytic leukemia. Int. J. Cancer 121: 1984-1993.

CHROMOSOMAL LOCATION

Genetic locus: PEG10 (human) mapping to 7q21.3.

PRODUCT

Peg10 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Peg10 shRNA Plasmid (h): sc-89888-SH and Peg10 shRNA (h) Lentiviral Particles: sc-89888-V as alternate gene silencing products.

For independent verification of Peg10 (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-89888A, sc-89888B and sc-89888C.

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

Peg10 siRNA (h) is recommended for the inhibition of Peg10 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 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

Peg10 (C-7): sc-365675 is recommended as a control antibody for monitoring of Peg10 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 Peg10 gene expression knockdown using RT-PCR Primer: Peg10 (h)-PR: sc-89888-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.