

Rtl1 siRNA (m): sc-153166

BACKGROUND

Placenta is necessary for fetal development by exchanging nutrition, gas and waste between fetal and maternal blood. Defects in placental proteins may cause several developmental disorders such as intrauterine growth retardation. Rtl1 (retrotransposon-like 1), also known as Mar1, MART1 or PEG11 (paternally expressed-11), is a 1,359 amino acid multi-pass membrane protein that is highly expressed in both the fetus and placenta. Rtl1 plays an essential role in the maintenance of fetal capillaries and in development of placenta. Decreased and overexpression of Rtl1 is thought to contribute to the upd(14)pat-like and upd(14)mat-like phenotypes, respectively. Paternal and maternal uniparental disomy for chromosome 14 (upd(14)pat and upd(14)mat) result in a unique phenotype characterized by facial abnormality, a small, bell-shaped thorax and abdominal wall defects, and upd(14)mat leads to pre- and postnatal growth failure and early onset of puberty.

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: Rtl1 (mouse) mapping to 12 F1.

PRODUCT

Rtl1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Rtl1 shRNA Plasmid (m): sc-153166-SH and Rtl1 shRNA (m) Lentiviral Particles: sc-153166-V as alternate gene silencing products.

For independent verification of Rtl1 (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-153166A, sc-153166B and sc-153166C.

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

Rtl1 siRNA (m) is recommended for the inhibition of Rtl1 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 μ M in 66 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Rtl1 gene expression knockdown using RT-PCR Primer: Rtl1 (m)-PR: sc-153166-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.