SANTA CRUZ BIOTECHNOLOGY, INC.

Plfr siRNA (m): sc-106420

BACKGROUND

Plfr (proliferin-related protein), also known as PRP, PLF-RP or prolactin-7D1, is a glycoprotein belonging to the somatotropin/prolactin family of growth hormones. Plfr shares significant homology with all members of this family. Plfr is a potent placental antiangiogenic hormone secreted during mid to late gestation (peaking at day 12) in response to several angiogenic factors. In contrast to proliferin, a promoter of placental neovascularization, Plfr may function to limit endothelial invasiveness and regulate the cessation of placental neovascularization. Plfr is produced by murine giant cells and spongiotrophoblasts. This localization suggests that Plfr may act to generate a barrier zone, preventing the criss-crossing of maternal blood vessels extending from the uterus and fetal vessels extending from the placenta. Although a human Plfr has not been characterized, the mouse hormone can induce antiangiogenic effects on human endothelial cells. This suggests that the Plfr signaling pathway is conserved between mouse and human.

REFERENCES

1. Linzer, D.I. and Nathans, D. 1985. A new member of the prolactin-growth hormone gene family expressed in mouse placenta. EMBO J. 4: 1419-1423.
2. Jackson, D., Volpert, O.V., Bouck, N. and Linzer, D.I. 1995. Stimulation and inhibition of angiogenesis by placental proliferin and proliferin-related protein. Science 266: 1581-1584.
3. Yamaguchi, M., Imai, T., Maeda, T., Sakata, M., Miyake, A. and Linzer, D.I. 1995. Cyclic adenosine 3',5'-monophosphate stimulation of placental proliferin and proliferin-related protein secretion. Endocrinology 136: 2040-2046.
4. Linzer, D.I. and Fisher, S.J. 1999. The placenta and the prolactin family of hormones: regulation of the physiology of pregnancy. Mol. Endocrinol. 13: 837-840.

CHROMOSOMAL LOCATION

Genetic locus: Prl7d1 (mouse) mapping to 13 A3.1.

PRODUCT

Plfr 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 Plfr shRNA Plasmid (m): sc-106420-SH and Plfr shRNA (m) Lentiviral Particles: sc-106420-V as alternate gene silencing products.

For independent verification of Plfr (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-106420A, sc-106420B and sc-106420C.

PROTOCOLS

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

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

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

Plfr (F-8): sc-393277 is recommended as a control antibody for monitoring of Plfr 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 Plfr gene expression knockdown using RT-PCR Primer: Plfr (m)-PR: sc-106420-PR (20 µl, 516 bp). 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.