SANTA CRUZ BIOTECHNOLOGY, INC.

PLAC1 siRNA (m): sc-61364

BACKGROUND

Placenta-specific proteins (PLACs) are X-linked proteins. The Plac1 gene maps to a region of the X chromosome known to be important for placental growth. Plac1 shows placenta-specific expression and is considered a marker for placental development. PLAC1 may play a role establishing the mother-fetus interface and is expressed exclusively by cells of trophoblastic lineage. PLAC1 expression is upregulated during trophoblast differentiation and its expression is regulated by peptide growth factors. It is detectable in maternal blood, but rapidly disappears after delivery.

REFERENCES

1. Cocchia, M., Huber, R., Pantano, S., Chen, E.Y., Ma, P., Forabosco, A., Ko, M.S. and Schlessinger, D. 2000. PLAC1, an Xq26 gene with placenta-specific expression. Genomics 68: 305-312.
2. Fant, M., Weisoly, D.L., Cocchia, M., Huber, R., Khan, S., Lunt, T. and Schlessinger, D. 2002. PLAC1, a trophoblast-specific gene, is expressed throughout pregnancy in the human placenta and modulated by keratinocyte growth factor. Mol. Reprod. Dev. 63: 430-436.
3. Massabbal, E., Parveen, S., Weisoly, D.L., Nelson, D.M., Smith, S.D. and Fant, M. 2005. PLAC1 expression increases during trophoblast differentiation: evidence for regulatory interactions with the fibroblast growth factor-7 (FGF-7) axis. Mol. Reprod. Dev. 71: 299-304.
4. Concu, M., Banzola, I., Farina, A., Sekizawa, A., Rizzo, N., Marini, M., Caramelli, E. and Carinci, P. 2005. Rapid clearance of mRNA for PLAC1 gene in maternal blood after delivery. Fetal Diagn. Ther. 20: 27-30.
5. Farina, A., Rizzo, N., Concu, M., Banzola, I., Sekizawa, A., Grotti, S. and Carinci, P. 2005. Lower maternal PLAC1 mRNA in pregnancies complicated with vaginal bleeding (threatened abortion <20 weeks) and a surviving fetus. Clin. Chem. 51: 224-227.

CHROMOSOMAL LOCATION

Genetic locus: Plac1 (mouse) mapping to X A5.

PRODUCT

PLAC1 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 PLAC1 shRNA Plasmid (m): sc-61364-SH and PLAC1 shRNA (m) Lentiviral Particles: sc-61364-V as alternate gene silencing products.

For independent verification of PLAC1 (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-61364A, sc-61364B and sc-61364C.

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

PLAC1 siRNA (m) is recommended for the inhibition of PLAC1 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

PLAC1 (G-1): sc-365919 is recommended as a control antibody for monitoring of PLAC1 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 PLAC1 gene expression knockdown using RT-PCR Primer: PLAC1 (m)-PR: sc-61364-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.