SANTA CRUZ BIOTECHNOLOGY, INC.

Choriogonadotropin β siRNA (h): sc-39540

BACKGROUND

Choriogonadotropin is a hormone produced by the placenta in the first trimester of pregnancy and exists as a heterodimer formed from a unique β chain and an α chain common to all gonadotropins. The unique β-chain confers biological specificity to choriogonadotropin, luteinizing hormone (LH) and follicle stimulating hormone (FSH). The secreted α subunit maps to human chromosome 6 and the β subunit of choriogonadotropin maps to human chromosome 19. Choriogonadotropin stimulates the ovaries to produce and maintain normal levels of the steroids essential for maintaining pregnancy, including estrogen and progesterone. Choriogonadotropin is a member of the cystine knot growth-factor superfamily, a group of proteins that contain a distinct arrangement of six cysteine residues and are expressed in placenta. The proper secretion and dimerization of choriogonadotropin depends on the conformation of the cystine knot, although biological activity is independent of this conformation.

REFERENCES

1. Naylor, S.L., et al. 1983. Chromosome assignment of the genes encoding the α and β subunits of the glycoprotein hormones in man and mouse. Somatic Cell Genet. 9: 757-770.
2. Lapthorn, A.J., et al. 1994. Crystal structure of human chorionic gonadotropin. Nature 369: 455-461.
3. Furuhashi, M., et al. 1994. Mutagenesis of cysteine residues in the human gonadotropin α subunit. Roles of individual disulfide bonds in secretion, assembly, and biologic activity. J. Biol. Chem. 269: 25543-25548.
4. Sun, P.D., et al. 1995. The cystine-knot growth-factor superfamily. Annu. Rev. Biophys. Biomol. Struct. 24: 269-291.
5. Furuhashi, M., et al. 1996. Disulfide bonds 7-31 and 59-87 of the α-subunit play a different role in assembly of human chorionic gonadotropin and lutropin. Endocrinology 137: 4196-4200.

CHROMOSOMAL LOCATION

Genetic locus: CGB (human) mapping to 19q13.33.

PRODUCT

Choriogonadotropin β siRNA (h) is a target-specific 19-25 nt siRNA 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 Choriogonadotropin β shRNA Plasmid (h): sc-39540-SH and Choriogonadotropin β shRNA (h) Lentiviral Particles: sc-39540-V as alternate gene silencing 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

Choriogonadotropin β siRNA (h) is recommended for the inhibition of Choriogonadotropin β 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

Choriogonadotropin β (B-4): sc-271062 is recommended as a control antibody for monitoring of the Choriogonadotropin β precursor 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 Choriogonadotropin β gene expression knockdown using RT-PCR Primer: Choriogonadotropin β (h)-PR: sc-39540-PR (20 µl, 419 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Sengodan, S.K., et al. 2017. BRCA1 regulation on β-hCG: a mechanism for tumorigenicity in BRCA1 defective breast cancer. Oncogenesis 6: e376.
2. Azar, C., et al. 2021. RNA-Seq identifies genes whose proteins are upregulated during syncytia development in murine C2C12 myoblasts and human BeWo trophoblasts. Physiol. Rep. 9: e14671.

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.