SANTA CRUZ BIOTECHNOLOGY, INC.

Gonadotropin α siRNA (m): sc-39539

BACKGROUND

Gonadotropin (also designated choriogonadotropin) is a hormone produced by the placenta in the first trimester of pregnancy and exists as a heterodimer formed from a common α chain and a unique β chain. The unique β chain confers biological specificity to thyrotropin, Lutropin, follitropin and gonadotropin. The secreted α subunit maps to human chromosome 6 and the β subunit maps to human chromosome 19. Gonadotropin stimulates the ovaries to produce and maintain normal levels of the steroids essential for maintaining pregnancy, including estrogen and progesterone. Gonadotropin 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 gonadotropin depends on the conformation of the cystine knot, although biological activity is independent of this conformation.

REFERENCES

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2. Lapthorn, A.J., et al. 1994. Crystal structure of human chorionic gonadotropin. Nature 369: 455-461.
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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.
6. Sato, A., et al. 1997. Cystine knot of the Gonadotropin a subunit is critical for intracellular behavior but not for *in vitro* biological activity. J. Biol. Chem. 272: 18098-18103.
7. Lustbader, J.W., et al. 1998. Structural and molecular studies of human chorionic Gonadotropin and its receptor. Recent Prog. Horm. Res. 53: 395-424.
8. Vaananen, J.E., et al. 1998. Regulation of prostaglandin F2α-receptor mRNA in human granulosa-luteal cells by human chorionic Gonadotropin and prostaglandin. Endocrine 8: 261-267.

CHROMOSOMAL LOCATION

Genetic locus: Cga (mouse) mapping to 4 A5.

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.

PRODUCT

Gonadotropin α 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 Gonadotropin α shRNA Plasmid (m): sc-39539-SH and Gonadotropin α shRNA (m) Lentiviral Particles: sc-39539-V as alternate gene silencing products.

For independent verification of Gonadotropin α (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-39539A, sc-39539B and sc-39539C.

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

Gonadotropin α siRNA (m) is recommended for the inhibition of Gonadotropin α 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Gonadotropin α gene expression knockdown using RT-PCR Primer: Gonadotropin α (m)-PR: sc-39539-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.