SANTA CRUZ BIOTECHNOLOGY, INC.

FSHβ siRNA (m): sc-39316

BACKGROUND

Follicle-stimulating hormone (FSH), also called follitropin, belongs to the family of glycoprotein hormones that also includes luteininizing hormone and thyroid-stimulating hormone. These hormones are secreted by the pituitary and exist as heterodimers, consisting of a common α subunit and a homologous but distinct β subunit. While the α subunit of FSH is involved in the binding of FSH to the receptor, follicle-stimulating hormone receptor (FSHR), the β subunit stabilizes this interaction. This heterodimer regulates a variety of processes, including secretion, posttranslational modification and signal transduction. Both FSH and FSHR are localized to Sertoli cells.

REFERENCES

1. Dias, J.A. 1996. Human follitropin heterodimerization and receptor binding structural motifs: identification and analysis by a combination of synthetic peptide and mutagenesis approaches. Mol. Cell. Endocrinol. 125: 45-54.
2. Sugahara, T., et al. 1996. Expression of biologically active fusion genes encoding the common α subunit and either the CGβ or FSHβ subunits: role of a linker sequence. Mol. Cell. Endocrinol. 125: 71-77.
3. Stanton, P.G., et al. 1996. Structural and functional characterisation of hFSH and hLH isoforms. Mol. Cell. Endocrinol. 125: 133-141.
4. Arnold, C.J., et al. 1998. The human follitropin α subunit C-terminus collaborates with a β subunit cystine noose and an α subunit loop to assemble a receptor-binding domain competent for signal transduction. Biochemistry 37: 1762-1768.
5. Baccetti, B., et al. 1998. Localization of human follicle-stimulating hormone in the testis. FASEB J.12: 1045-1054.
6. Beau, I., et al. 1998. The basolateral localization signal of the follicle-stimulating hormone receptor. J. Biol. Chem. 273: 18610-18616.

CHROMOSOMAL LOCATION

Genetic locus: Fshb (mouse) mapping to 2 E3.

PRODUCT

FSHβ 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 FSHβ shRNA Plasmid (m): sc-39316-SH and FSHβ shRNA (m) Lentiviral Particles: sc-39316-V as alternate gene silencing products.

For independent verification of FSHβ (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-39316A, sc-39316B and sc-39316C.

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.

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

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

FSHβ (C-12): sc-374452 is recommended as a control antibody for monitoring of FSHβ 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 FSHβ gene expression knockdown using RT-PCR Primer: FSHβ (h)-PR: sc-39315-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.