SANTA CRUZ BIOTECHNOLOGY, INC.

GnRHR siRNA (h): sc-40012

BACKGROUND

Gonadotropin-releasing hormone (GnRH) is released in a pulsatile manner that varies with the reproductive cycle. This hypothalamic hormone is transported to the pituitary, where it binds to specific receptors and regulates the synthesis and release of luteinizing hormone (LH) and follicle-stimulating hormone (FSH). The GnRH receptor (GnRHR), like most G-protein coupled receptors, contains a seven transmembrane domain. However, unlike most G-protein coupled receptors, the GnRHR lacks an intracellular C-terminal domain. The GnRHR gene is thought to be regulated by GnRH and activin A, and has been shown to undergo alternative splicing.

REFERENCES

1. Tsutsumi, M., et al. 1992. Cloning and functional expression of a mouse gonadotropin-releasing hormone receptor. Mol. Endocrinol. 6: 1163-1169.
2. Chi, L., et al. 1993. Cloning and characterization of the human GnRH receptor. Mol. Cell. Endocrinol. 91: R1-R6.
3. Zhou, W., et al. 1994. Structure of the mouse gonadotropin-releasing hormone receptor gene: variant transcripts generated by alternative processing. DNA Cell Biol. 13: 605-614.
4. Kaiser, U.B., et al. 1995. A mechanism for the differential regulation of gonadotropin subunit gene expression by gonadotropin-releasing hormone. Proc. Natl. Acad. Sci. USA 92: 12280-12284.
5. Fernandez-Vazquez, G., et al. 1996. Transcriptional activation of the gonadotropin-releasing hormone receptor gene by Activin A. Mol. Endocrinol. 10: 356-366.
6. Kaiser, U.B., et al. 1997. Differential effects of gonadotropin-releasing hormone (GnRH) pulse frequency on gonadotropin subunit and GnRH receptor messenger ribonucleic acid levels *in vitro*. Endocrinology 138: 1224-1231.
7. Lin, X., et al. 1998. Transcriptional activation of gonadotropin-releasing hormone (GnRH) receptor gene by GnRH and cyclic adenosine monophosphate. Endocrinology 139: 3896-3902.

CHROMOSOMAL LOCATION

Genetic locus: GNRHR (human) mapping to 4q13.2.

PRODUCT

GnRHR siRNA (h) 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 GnRHR shRNA Plasmid (h): sc-40012-SH and GnRHR shRNA (h) Lentiviral Particles: sc-40012-V as alternate gene silencing products.

For independent verification of GnRHR (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-40012A, sc-40012B and sc-40012C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

GnRHR siRNA (h) is recommended for the inhibition of GnRHR 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

GnRHR (GRX-5): sc-69845 is recommended as a control antibody for monitoring of GnRHR 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GnRHR gene expression knockdown using RT-PCR Primer: GnRHR (h)-PR: sc-40012-PR (20 µl, 545 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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