SANTA CRUZ BIOTECHNOLOGY, INC.

GHRH siRNA (h): sc-39519

BACKGROUND

Growth hormone-releasing hormone (GHRH), also designated somatoliberin or GRF, is a member of the GRF superfamily of structurally related peptide hormones. Members of the GRF superfamily have amphiphilic α-helical secondary structures as their preferred bioactive conformations. GHRH exerts its action through high-affinity GHRH receptors (GHRH-R) present in the anterior pituitary. It also functions as an autocrine/paracrine growth factor for small cell lung carcinoma. GHRH stimulates secretion and synthesis of growth hormone, causes somatotroph proliferation, and may have direct actions in fetal/placental development, reproduction and immune function. The GRF superfamily includes vasoactive intestinal peptide, pituitary adenylate cyclase-activating polypeptide, secretin and glucagon. The gene encoding GHRH maps to human chromosome 20q11.23.

REFERENCES

1. Campbell, R.M., et al. 1992. Evolution of the growth hormone-releasing factor (GRF) family of peptides. Growth Regul. 2: 175-191.
2. Mayo, K.E. 1992. Molecular cloning and expression of a pituitary-specific receptor for growth hormone-releasing hormone. Mol. Endocrinol. 6: 1734-1744.
3. Gaylinn, B.D., et al. 1993. Molecular cloning and expression of a human anterior pituitary receptor for growth hormone-releasing hormone. Mol. Endocrinol. 7: 77-84.
4. Perez Jurado, L.A., et al. 1994. Genetic mapping of the human growth hormone-releasing factor gene (GHRF) using two intragenic polymorphisms detected by PCR amplification. Genomics 20: 132-134.
5. Kiaris, H., et al. 1999. Growth hormone-releasing hormone: an autocrine growth factor for small cell lung carcinoma. Proc. Natl. Acad. Sci. USA 96: 14894-14898.
6. Petersenn, S., et al. 2000. Structure and function of the growth-hormone-releasing hormone receptor. Vitam. Horm. 59: 35-69.

CHROMOSOMAL LOCATION

Genetic locus: GHRH (human) mapping to 20q11.23.

PRODUCT

GHRH 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 GHRH shRNA Plasmid (h): sc-39519-SH and GHRH shRNA (h) Lentiviral Particles: sc-39519-V as alternate gene silencing products.

For independent verification of GHRH (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-39519A, sc-39519B and sc-39519C.

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

GHRH siRNA (h) is recommended for the inhibition of GHRH 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GHRH gene expression knockdown using RT-PCR Primer: GHRH (h)-PR: sc-39519-PR (20 µl, 320 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Barabutis, N., et al. 2008. Knocking down gene expression for growth hormone-releasing hormone inhibits proliferation of human cancer cell lines. Br. J. Cancer 98: 1790-1796.

RESEARCH USE

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