SANTA CRUZ BIOTECHNOLOGY, INC.

GHS-R1 siRNA (m): sc-40018

BACKGROUND

GHS-R1 (growth hormone secretagogue receptor type 1) is a G protein-coupled receptor. GHS-R1 binds synthetic peptidyl and nonpeptidyl growth hormone secretagogues (GHS), which stimulate growth hormone (GH) release. The binding of GHS to GHS-R1 is magnesium-dependent, inhibited by GTP-γ-S and not displaced by the two hypothalamic hormones, growth hormone releasing hormone (GHRH) and somatostatin. This suggests that the interaction between GHS and GHS-R1 is distinct from GH regulation via GHRH and somatostatin and there exists a natural growth hormone regulator specific for GHS-R. GHS-R1 is primarily expressed in the hypothalamus and pituitary, and expression has been shown to be elevated in pituitary adenoma tissue.

REFERENCES

1. Pong, S.S., et al. 1996. Identification of a new G protein-linked receptor for growth hormone secretagogues. Mol. Endocrinol. 10: 57-61.
2. Bennett, P.A., et al. 1997. Hypothalamic growth hormone secretagogue-receptor (GHS-R) expression is regulated by growth hormone in the rat. Endocrinology 138: 4552-4557.
3. Guan, X.M., et al. 1997. Distribution of mRNA encoding the growth hormone secretagogue receptor in brain and peripheral tissues. Brain Res. Mol. Brain Res. 48: 23-29.
4. Kamegai, J., et al. 1998. Growth hormone-dependent regulation of pituitary GF secretagogue receptor (GHS-R) mRNA levels in the spontaneous dwarf rat. Neuroendocrinology 68: 312-318.
5. Korbonits, M., et al. 1998. Expression of the growth hormone secretagogue receptor in pituitary adenomas and other neuroendocrine tumors. J. Clin. Endocrinol. Metab. 83: 3624-3630.
6. Barlier, A., et al. 1999. Expression of functional growth hormone secretagogue receptors in human pituitary adenomas: polymerase chain reaction, triple *in situ* hybridization and cell culture studies. J. Neuroendocrinol. 11: 491-502.
7. Cassoni, P., et al. 2001. Identification, characterization, and biological activity of specific receptors for natural (ghrelin) and synthetic growth hormone secretagogues and analogs in human breast carcinomas and cell lines. J. Clin. Endocrinol. Metab. 86: 1738-1745.

CHROMOSOMAL LOCATION

Genetic locus: Ghsr (mouse) mapping to 3 A3.

PRODUCT

GHS-R1 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 GHS-R1 shRNA Plasmid (m): sc-40018-SH and GHS-R1 shRNA (m) Lentiviral Particles: sc-40018-V as alternate gene silencing products.

For independent verification of GHS-R1 (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-40018A, sc-40018B and sc-40018C.

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

GHS-R1 siRNA (m) is recommended for the inhibition of GHS-R1 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

GHS-R1 (E-7): sc-374515 is recommended as a control antibody for monitoring of GHS-R1 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 GHS-R1 gene expression knockdown using RT-PCR Primer: GHS-R1 (m)-PR: sc-40018-PR (20 µl, 495 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.