SANTA CRUZ BIOTECHNOLOGY, INC.

CGRP-RCP siRNA (h): sc-45539

BACKGROUND

Calcitonin is a 32 amino acid hormone that preserves skeletal integrity by inhibiting osteoclast formation and bone resorption. The secretion of Calcitonin from the thyroid is regulated in part by estrogen, which increases Calcitonin mRNA levels. The Calcitonin gene undergoes alternative splicing, resulting in the production of several related products. One such product is Calcitonin gene-related peptide (CGRP), which is expressed in neuronal cells. CGRP immunoreactive neurons innervate the uterus. Specifically, CGRP inhibits spontaneous and evoked contractions in the uterus and fallopian tubes. The CGRP-receptor complement protein (CGRP-RCP) is an accessory protein that is expressed in CGRP responsive tissues. CGRP-RCP is associated with the acrosome, thereby playing a role in reproduction. Specifically, CGRP-RCP couples the CGRP receptor to downstream effectors.

REFERENCES

1. Luebke, A.E., et al. 1996. Identification of a protein that confers calcitonin gene-related peptide responsiveness to oocytes by using a cystic fibrosis transmembrane conductance regulator assay. Proc. Natl. Acad. Sci. USA 93: 3455-3460.
2. Balkan, W., et al. 1999. Testes exhibit elevated expression of calcitonin gene-related peptide receptor component protein. Endocrinology 140: 1459-1469.
3. Sams, A., et al. 1999. Equipotent *in vitro* actions of α- and β-CGRP on guinea pig basilar artery are likely to be mediated via CRLR derived CGRP receptors. Regul. Pept. 85: 67-75.
4. Naghashpour, M., et al. 2000. Sensitivity of myometrium to CGRP varies during mouse estrous cycle and in response to progesterone. Am. J. Physiol., Cell Physiol. 278: C561-C569.
5. Evans, B.N., et al. 2000. CGRP-RCP, a novel protein required for signal transduction at calcitonin gene-related peptide and adrenomedullin receptors. J. Biol. Chem. 275: 31438-31443.
6. Harzenetter, M.D., et al. 2002. Regulation and function of the CGRP receptor complex in human granulopoiesis. Exp. Hematol. 30: 306-312.

CHROMOSOMAL LOCATION

Genetic locus: CRCP (human) mapping to 7q11.21.

PRODUCT

CGRP-RCP 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 CGRP-RCP shRNA Plasmid (h): sc-45539-SH and CGRP-RCP shRNA (h) Lentiviral Particles: sc-45539-V as alternate gene silencing products.

For independent verification of CGRP-RCP (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-45539A, sc-45539B and sc-45539C.

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

CGRP-RCP siRNA (h) is recommended for the inhibition of CGRP-RCP 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

CGRP-RCP (D-1): sc-393347 is recommended as a control antibody for monitoring of CGRP-RCP 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 CGRP-RCP gene expression knockdown using RT-PCR Primer: CGRP-RCP (h)-PR: sc-45539-PR (20 µl). 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.