SANTA CRUZ BIOTECHNOLOGY, INC.

GRPR siRNA (m): sc-145783

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Gastrin-Releasing Peptide (GRP) stimulates the release of gastrin as well as other gastrointestinal hormones in addition to acting as an autocrine growth factor for certain cell types. The human GRP receptor (GRPR) gene maps to chromosome Xp22.2 and encodes a seven transmembrane domain protein. Whereas normal human pancreas and stomach express GRPR, normal lung, colon and prostate do not. Well-differentiated colon tumors coexpress GRP and GRPR. Prostate carcinoma also expresses GRPR. Following exposure to nicotine, human lung fibroblasts increase expression of GRPR. Aberrent GRPR expression occurs more frequently in female normal lung than male normal lung, and may account for the increased susceptibility of women to tobacco-induced lung cancer.

REFERENCES

1. Spindel, E.R., et al. 1990. Cloning and functional characterization of a complementary DNA encoding the murine fibroblast bombesin/gastrin-releasing peptide receptor. Mol. Endocrinol. 4: 1956-1963.
2. Maslen, G.L., et al. 1993. Comparative mapping of the GRPR locus on the X chromosomes of man and mouse. Genomics 17: 106-109.
3. Sachs, G., et al. 1997. Physiology of isolated gastric endocrine cells. Annu. Rev. Physiol. 59: 243-256.
4. Terashi, H., et al. 1998. Growth stimulation of normal melanocytes and nevocellular nevus cells by gastrin releasing peptide (GRP). J. Dermatol. Sci. 17: 93-100.
5. Carroll, R.E., et al. 1999. Aberrant expression of gastrin-releasing peptide and its receptor by well-differentiated colon cancers in humans. Am. J. Physiol. 276: G655-G665.
6. Sun, B., et al. 2000. Presence of receptors for bombesin/gastrin-releasing peptide and mRNA for three receptor subtypes in human prostate cancers. Prostate 42: 295-303.

CHROMOSOMAL LOCATION

Genetic locus: Grpr (mouse) mapping to X F5.

PRODUCT

GRPR 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 GRPR shRNA Plasmid (m): sc-145783-SH and GRPR shRNA (m) Lentiviral Particles: sc-145783-V as alternate gene silencing products.

For independent verification of GRPR (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-145783A, sc-145783B and sc-145783C.

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

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

GRPR (D-1): sc-398549 is recommended as a control antibody for monitoring of GRPR 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-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-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-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (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 GRPR gene expression knockdown using RT-PCR Primer: GRPR (m)-PR: sc-145783-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Choi, Y., et al. 2020. Gastrin-releasing peptide (GRP) stimulates osteoclastogenesis in periodontitis. Cells 10: E50.

RESEARCH USE

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