SANTA CRUZ BIOTECHNOLOGY, INC.

GLP-2R siRNA (h): sc-60695

BACKGROUND

Glucagon, a pancreatic hormone, functions as an antagonist to Insulin, stimulating the conversion of glycogen to glucose and increasing blood sugar levels. GLP-1 functions as a transmitter in the central nervous system, inhibiting feeding and drinking behavior. Both Glucagon and GLP-1 function through their specific binding to the Glucagon Receptor or GLP-1R, respectively. The Glucagon Receptor is expressed in liver, kidney and adipose tissue. The GLP-1R expression primarily localizes to areas of the hypothalamus involved in feeding behavior. Both receptors and their ligands serve as potential targets for the therapeutic treatment of diabetes. Glucagon-like peptide 2 receptor, also designated GLP-2 receptor or GLP-2R, acts as a receptor for glucagon-like peptide 2 (GLP-2). GLP-2 is a nutrient-responsive hormone that has various functions in the gastrointestinal tract. The activity of GLP-2R, which is a multi-pass membrane protein, is mediated by G-proteins which activate adenylyl cyclase.

REFERENCES

1. Munroe, D.G., et al. 1999. Prototypic G protein-coupled receptor for the intestinotrophic factor Glucagon-like peptide 2. Proc. Natl. Acad. Sci. USA 96: 1569-1573.
2. Estall, J.L., et al. 2005. The Glucagon-like peptide-2 receptor C-terminus modulates β-arrestin-2 association but is dispensable for ligand-induced desensitization, endocytosis and G protein-dependent effector activation. J. Biol. Chem. 280: 22124-22134.
3. Koehler, J.A., et al. 2005. HeLa cell Glucagon-like peptide-2 receptor is coupled to regulation of apoptosis and ERK1/2 activation through divergent signaling pathways. Mol. Endocrinol. 19: 459-473.
4. Estall, J.L. and Drucker, D.J. 2006. Glucagon and Glucagon-like peptide receptors as drug targets. Curr. Pharm. Des. 12: 1731-1750.
5. Sams, A., et al. 2006. Naturally occurring Glucagon-like peptid cell lines. Eur. J. Pharmacol. 532: 18-23.
6. Guan, X., et al. 2006. GLP-2 receptor localizes to enteric neurons and endocrine cells expressing vasoactive peptides and mediates increased blood flow. Gastroenterology 130: 150-164.

CHROMOSOMAL LOCATION

Genetic locus: GLP2R (human) mapping to 17p13.1.

PRODUCT

GLP-2R 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 GLP-2R shRNA Plasmid (h): sc-60695-SH and GLP-2R shRNA (h) Lentiviral Particles: sc-60695-V as alternate gene silencing products.

For independent verification of GLP-2R (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-60695A, sc-60695B and sc-60695C.

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

GLP-2R siRNA (h) is recommended for the inhibition of GLP-2R 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

GLP-2R (1F2): sc-293310 is recommended as a control antibody for monitoring of GLP-2R 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 GLP-2R gene expression knockdown using RT-PCR Primer: GLP-2R (h)-PR: sc-60695-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.