

# GLP-2R siRNA (m): sc-60696

## 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  $\beta$ -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 peptide 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* (mouse) mapping to 11 B3.

## PRODUCT

GLP-2R 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GLP-2R shRNA Plasmid (m): sc-60696-SH and GLP-2R shRNA (m) Lentiviral Particles: sc-60696-V as alternate gene silencing products.

For independent verification of GLP-2R (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-60696A, sc-60696B and sc-60696C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

GLP-2R siRNA (m) is recommended for the inhibition of GLP-2R 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  $\mu$ M in 66  $\mu$ l. 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 GLP-2R gene expression knockdown using RT-PCR Primer: GLP-2R (m)-PR: sc-60696-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.