SANTA CRUZ BIOTECHNOLOGY, INC.

GPR110 siRNA (m): sc-145693

BACKGROUND

G protein-coupled receptors (GPRs), also known as seven transmembrane receptors, heptahelical receptors or 7TM receptors, comprise a superfamily of proteins that play a role in many different stimulus-response pathways. G protein-coupled receptors translate extracellular signals into intracellular signals (G protein activation) and they respond to a variety of signaling molecules, such as hormones and neurotransmitters. GPR110 (G protein-coupled receptor 110), also known as PGR19, is a 911 amino acid protein that belongs to the G protein-coupled receptor 2 family and LN-TM7 subfamily. Characterized as an adhesion GPCR, GPR110 is a multipass membrane-bound protein with a long amino-terminus that contains multiple domains. One of these domains is the GPCR proteolytic site (GPS), which is essential for proteolytic cleavage of the amino-terminus and for cell surface expression.

REFERENCES

1. Fredriksson, R., Lagerström, M.C., Höglund, P.J. and Schiöth, H.B. 2002. Novel human G protein-coupled receptors with long N-terminals containing GPS domains and Ser/Thr-rich regions. FEBS Lett. 531: 407-414.
2. Bjarnadóttir, T.K., Fredriksson, R., Höglund, P.J., Gloriam, D.E., Lagerström, M.C. and Schiöth, H.B. 2004. The human and mouse repertoire of the adhesion family of G protein-coupled receptors. Genomics 84: 23-33.
3. Bjarnadóttir, T.K., Geirardsdóttir, K., Ingemansson, M., Mirza, M.A., Fredriksson, R. and Schiöth, H.B. 2007. Identification of novel splice variants of Adhesion G protein-coupled receptors. Gene 387: 38-48.
4. Lagerström, M.C. and Schiöth, H.B. 2008. Structural diversity of G protein-coupled receptors and significance for drug discovery. Nat. Rev. Drug Discov. 7: 339-357.
5. Cotton, M. and Claing, A. 2009. G protein-coupled receptors stimulation and the control of cell migration. Cell. Signal. 21: 1045-1053.
6. Ho, M.K., Su, Y., Yeung, W.W. and Wong, Y.H. 2009. Regulation of transcription factors by heterotrimeric G proteins. Curr. Mol. Pharmacol. 2: 19-31.
7. Woehler, A. and Ponimaskin, E.G. 2009. G protein-mediated signaling: same receptor, multiple effectors. Curr. Mol. Pharmacol. 2: 237-248.

CHROMOSOMAL LOCATION

Genetic locus: Gpr110 (mouse) mapping to 17 B3.

PRODUCT

GPR110 siRNA (m) is a target-specific 19-25 nt siRNA 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 GPR110 shRNA Plasmid (m): sc-145693-SH and GPR110 shRNA (m) Lentiviral Particles: sc-145693-V as alternate gene silencing products.

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

GPR110 siRNA (m) is recommended for the inhibition of GPR110 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GPR110 gene expression knockdown using RT-PCR Primer: GPR110 (m)-PR: sc-145693-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.