SANTA CRUZ BIOTECHNOLOGY, INC.

GPR113 siRNA (h): sc-95043

BACKGROUND

G protein-coupled receptors (GPRs or GPCRs), also known as seven transmembrane receptors, heptahelical receptors or 7TM receptors, are members of the largest protein family and play a role in many different stimulus-response pathways. G protein-coupled receptors mediate extracellular signals into intracellular signals (G protein activation). They respond to a wide variety of signaling molecules, including hormones, neurotransmitters and other proteins and peptides. GPR proteins are usually integral seven pass membrane proteins with some conserved amino acid regions. GPR113 (G protein-coupled receptor 113), also known as PGR23 (G protein-coupled receptor PGR23), is a 1,079 amino acid multi-pass membrane protein that belongs to the G protein-coupled receptor 2 family and LN-TM7 subfamily. Localizing to cell membrane and containing one GPS domain, GPR113 may function as an orphan receptor. GPR113 exists as two isoforms due to alternative splicing events.

REFERENCES

1. Fredriksson, R., et al. 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. Vassilatis, D.K., et al. 2003. The G protein-coupled receptor repertoires of human and mouse. Proc. Natl. Acad. Sci. USA 100: 4903-4908.
3. Bjarnadóttir, T.K., et al. 2004. The human and mouse repertoire of the adhesion family of G protein-coupled receptors. Genomics 84: 23-33.
4. Ross, M.T., et al. 2005. The DNA sequence of the human X chromosome. Nature 434: 325-337.
5. Bjarnadóttir, T.K., et al. 2007. Identification of novel splice variants of Adhesion G protein-coupled receptors. Gene 387: 38-48.
6. Leja, J., et al. 2009. Novel markers for enterochromaffin cells and gastrointestinal neuroendocrine carcinomas. Mod. Pathol. 22: 261-272.

CHROMOSOMAL LOCATION

Genetic locus: GPR113 (human) mapping to 2p23.3.

PRODUCT

GPR113 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 GPR113 shRNA Plasmid (h): sc-95043-SH and GPR113 shRNA (h) Lentiviral Particles: sc-95043-V as alternate gene silencing products.

For independent verification of GPR113 (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-95043A, sc-95043B and sc-95043C.

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

GPR113 siRNA (h) is recommended for the inhibition of GPR113 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor GPR113 gene expression knockdown using RT-PCR Primer: GPR113 (h)-PR: sc-95043-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.