SANTA CRUZ BIOTECHNOLOGY, INC.

GPRC5B siRNA (m): sc-62410

BACKGROUND

GPRC5B (G protein-coupled receptor family C group 5 member B, retinoic acid-induced gene 2 protein) is a 403 amino acid protein encoded by the human GPRC5B gene. GPRC5B is an orphan receptor member of the G protein-coupled receptor 3 family. G protein-coupled receptors (GPCRs or GPRs) contain seven transmembrane domains and transduce extracellular signals through heterotrimeric G proteins. Key roles for G protein-coupled receptors include control of protein maturation and cell surface delivery, and providing the correct framework for interactions with both heterotrimeric G proteins and arrestins to allow signal generation and termination. This retinoic acid-inducible G protein-coupled receptor provides evidence for a possible interaction between retinoid and G protein signaling pathways. GPRC5B is highly expressed in kidney, pancreas and testis, and has moderate expression in brain, heart, prostate, small intestine and spleen.

REFERENCES

1. Bräuner-Osborne, H. and Krogsgaard-Larsen, P. 2000. Sequence and expression pattern of a novel human orphan G protein-coupled receptor, GPRC5B, a family C receptor with a short amino-terminal domain. Genomics 65: 121-128.
2. Robbins, M.J., et al. 2000. Molecular cloning and characterization of two novel retinoic acid-inducible orphan G protein-coupled receptors (GPRC5B and GPRC5C). Genomics 67: 8-18.
3. Robbins, M.J., et al. 2002. Localisation of the GPRC5B receptor in the rat brain and spinal cord. Brain Res. Mol. Brain Res. 106: 136-144.
4. Takeda, S., et al. 2002. Identification of G protein-coupled receptor genes from the human genome sequence. FEBS Lett. 520: 97-101.
5. Inoue, S., et al. 2004. The RAIG family member, GPRC5D, is associated with hard-keratinized structures. J. Invest. Dermatol. 122: 565-573.
6. Imanishi, S., et al. 2007. Changes in expression and localization of GPRC5B and RARα in the placenta and yolk sac during middle to late gestation in mice. J. Reprod. Dev. 53: 1131-1136.

CHROMOSOMAL LOCATION

Genetic locus: Gprc5b (mouse) mapping to 7 F2.

PRODUCT

GPRC5B 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 GPRC5B shRNA Plasmid (m): sc-62410-SH and GPRC5B shRNA (m) Lentiviral Particles: sc-62410-V as alternate gene silencing products.

For independent verification of GPRC5B (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-62410A, sc-62410B and sc-62410C.

RESEARCH USE

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

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

GPRC5B siRNA (m) is recommended for the inhibition of GPRC5B 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 GPRC5B gene expression knockdown using RT-PCR Primer: GPRC5B (m)-PR: sc-62410-PR (20 µl, 522 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Chacrabati, R., et al. 2017. The effect of glutamate on ghrelin release in mice. Cell Biol. Int. 41: 320-327.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.