SANTA CRUZ BIOTECHNOLOGY, INC.

GPR137B siRNA (m): sc-145703

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. GPRs translate extracellular signals into intracellular signals (a process called G-protein activation) and they respond to a variety of signaling molecules, such as hormones and neurotransmitters. GPR137B (G protein-coupled receptor 137B), also known as TM7SF1 (transmembrane 7 superfamily member 1 protein), is a 399 amino acid multi-pass membrane protein that is expressed in kidney, heart, brain and placenta. It is suggested that GPR137B is upregulated in the course of kidney development.

REFERENCES

1. Sawzdargo, M., et al. 1997. A cluster of four novel human G protein-coupled-receptor genes occurring in close proximity to CD22 gene on chromosome 19q13.1. Biochem. Biophys. Res. Commun. 239: 543-547.
2. Spangenberg, C., et al. 1998. Cloning and characterization of a novel gene (TM7SF1) encoding a putative seven-pass transmembrane protein that is upregulated during kidney development. Genomics 48: 178-185.
3. Lee, D.K., et al. 2001. Discovery and mapping of ten novel G protein-coupled receptor genes. Gene 275: 83-91.
4. Stehlik, C., et al. 2004. VIGR—a novel inducible adhesion family G protein-coupled receptor in endothelial cells. FEBS Lett. 569: 149-155.
5. Bates, B., et al. 2006. Characterization of Gpr101 ex-pression and G protein-coupling selectivity. Brain Res. 1087: 1-14.
6. Amisten, S., et al. 2008. Gene expres-sion profiling for the identification of G protein-coupled receptors in human platelets. Thromb. Res. 122: 47-57.
7. Lange, A., et al. 2009. Detergent fractionation with subsequent subtractive suppression hybridization as a tool for identifying genes coding for plasma membrane proteins. Exp. Dermatol. 18: 527-535.

CHROMOSOMAL LOCATION

Genetic locus: Gpr137b (mouse) mapping to 13 A1.

PRODUCT

GPR137B 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 GPR137B shRNA Plasmid (m): sc-145703-SH and GPR137B shRNA (m) Lentiviral Particles: sc-145703-V as alternate gene silencing products.

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.

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

GPR137B siRNA (m) is recommended for the inhibition of GPR137B 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 GPR137B gene expression knockdown using RT-PCR Primer: GPR137B (m)-PR: sc-145703-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.