SANTA CRUZ BIOTECHNOLOGY, INC.

GPR84 siRNA (m): sc-60752

BACKGROUND

G protein-coupled receptors (GPCRs), also designated seven transmembrane (7TM) receptors and heptahelical receptors, are a protein family which interact with G proteins (heterotrimeric GTPases) to synthesize intracellular second messengers such as diacylglycerol, cyclic AMP, inositol phosphates and calcium ions. Their diverse biological functions range from vision and olfaction to neuronal and endocrine signaling and are involved in many pathological conditions. G protein receptor 84 (GPR84), a member of the GCPR 1 family, is an orphan GCPR expressed in bone marrow, brain, heart, muscle, colon, thymus, spleen, kidney, liver, placenta, intestine, lung and peripheral blood leukocytes. In activated T cells, GPR84 regulates early interleukin-4 (IL-4) gene expression.

REFERENCES

1. Lameh, J., et al. 1991. Structure and function of G protein-coupled receptors. Pharm. Res. 7: 1213-1221.
2. Probst, W.C., et al. 1992. Sequence alignment of the G protein-coupled receptor superfamily. DNA Cell Biol. 11: 1-20.
3. Yousefi, S., et al. 2001. Cloning and expression analysis of a novel G protein-coupled receptor selectively expressed on granulocytes. J. Leukoc. Biol. 69: 1045-1052.
4. Wittenberger, T., et al. 2001. An expressed sequence tag (EST) data mining strategy succeeding in the discovery of new G protein-coupled receptors. J. Mol. Biol. 307: 799-813.
5. Venkataraman, C. and Kuo, F. 2005. The G protein-coupled receptor, GPR84 regulates IL-4 production by T lymphocytes in response to CD3 crosslinking. Immunol. Lett. 101: 144-153.

CHROMOSOMAL LOCATION

Genetic locus: Gpr84 (mouse) mapping to 15 F3.

PRODUCT

GPR84 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 GPR84 shRNA Plasmid (m): sc-60752-SH and GPR84 shRNA (m) Lentiviral Particles: sc-60752-V as alternate gene silencing products.

For independent verification of GPR84 (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-60752A, sc-60752B and sc-60752C.

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

GPR84 siRNA (m) is recommended for the inhibition of GPR84 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 GPR84 gene expression knockdown using RT-PCR Primer: GPR84 (m)-PR: sc-60752-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.