SANTA CRUZ BIOTECHNOLOGY, INC.

GPR116 siRNA (m): sc-75169

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. GPR116 (G protein-coupled receptor 116) is a 1,346 amino acid multi-pass membrane protein that contains one SEA domain, one GPS domain and three Ig-like domains and belongs to the GPR family. Existing as a dilsulfide-liked homodimer at the cell surface, GPR116 exists as multiple alternatively spliced isoforms and is thought to play a role in regulating and maintaining proper acid-base balance throughout the cell.

REFERENCES

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4. Vassilatis, D.K., et al. 2003. The G protein-coupled receptor repertoires of human and mouse. Proc. Natl. Acad. Sci. USA 100: 4903-4908.
5. Bjarnadóttir, T.K., et al. 2004. The human and mouse repertoire of the adhesion family of G protein-coupled receptors. Genomics 84: 23-33.
6. Fukuzawa, T., et al. 2006. Multiple processing of Ig-Hepta/GPR116, a G protein-coupled receptor with immunoglobulin (Ig)-like repeats, and generation of EGF2-like fragment. J. Biochem. 140: 445-452.
7. Bjarnadóttir, T.K., et al. 2007. Identification of novel splice variants of Adhesion G protein-coupled receptors. Gene 387: 38-48.
8. Sandberg, A., et al. 2008. SEA domain autoproteolysis accelerated by conformational strain: energetic aspects. J. Mol. Biol. 377: 1117-1129.

CHROMOSOMAL LOCATION

Genetic locus: Gpr116 (mouse) mapping to 17 B3.

PRODUCT

GPR116 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 GPR116 shRNA Plasmid (m): sc-75169-SH and GPR116 shRNA (m) Lentiviral Particles: sc-75169-V as alternate gene silencing products.

For independent verification of GPR116 (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-75169A, sc-75169B and sc-75169C.

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

GPR116 siRNA (m) is recommended for the inhibition of GPR116 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 GPR116 gene expression knockdown using RT-PCR Primer: GPR116 (m)-PR: sc-75169-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.

PROTOCOLS

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