SANTA CRUZ BIOTECHNOLOGY, INC.

GPR26 siRNA (h): sc-90365

BACKGROUND

G protein-coupled receptors (GPRs) are a protein family of transmembrane receptors that transmit an extracellular signal (ligand binding) into an intracellular signal (G protein activation). GPR signaling is an ancient evolutionarily mechanism used by all eukaryotes to sense environmental stimuli and mediate cell-cell communication. GPRs have seven membrane-spanning domains and the extracellular domains are often glycosylated. These extracellular loops also contain two highly conserved cysteine residues which create disulfide bonds to stabilize the receptor structure. GPR26 (G protein-coupled receptor 26) is a 337 amino acid protein that is primarily expressed in regions of the brain. GPR26 is characterized as an "orphan" G protein-coupled receptor, which is a receptor that binds an unidentified natural ligand. Due to evidence of GPR26 being downregulated in glioblastomas, it has been suggested that GPR26 may be a suppressor of early glioma development.

REFERENCES

1. Marchese, A., et al. 1999. Discovery of three novel orphan G protein-coupled receptors. Genomics 56: 12-21.
2. Lee, D.K., et al. 2000. Cloning and characterization of additional members of the G protein-coupled receptor family. Biochim. Biophys. Acta 1490: 311-323.
3. Lee, D.K., et al. 2001. Discovery and mapping of ten novel G protein-coupled receptor genes. Gene 275: 83-91.
4. Bresnick, J.N., et al. 2003. Identification of signal transduction pathways used by orphan G protein-coupled receptors. Assay Drug Dev. Technol. 1: 239-249.
5. Vanti, W.B., et al. 2003. Novel human G protein-coupled receptors. Biochem. Biophys. Res. Commun. 305: 67-71.
6. Kobilka, B.K. 2007. G protein-coupled receptor structure and activation. Biochim. Biophys. Acta 1768: 794-807.

CHROMOSOMAL LOCATION

Genetic locus: GPR26 (human) mapping to 10q26.13.

PRODUCT

GPR26 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 GPR26 shRNA Plasmid (h): sc-90365-SH and GPR26 shRNA (h) Lentiviral Particles: sc-90365-V as alternate gene silencing products.

For independent verification of GPR26 (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-90365A, sc-90365B and sc-90365C.

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

GPR26 siRNA (h) is recommended for the inhibition of GPR26 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 GPR26 gene expression knockdown using RT-PCR Primer: GPR26 (h)-PR: sc-90365-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.