SANTA CRUZ BIOTECHNOLOGY, INC.

GPR128 siRNA (h): sc-60739

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 128 (GPR128), a member of the secretin family of GCPRs with a GPS domain in its N-terminal domain, may mediate signaling processes to the interior of the cell via activation of G proteins. GPR128 represents an allopeptide which may be involved in T cell mediated transplant rejection as it is able to stimulate 2.102 T cells.

REFERENCES

1. Lameh, J., Cone, R.I., Maeda, S., Philip, M., Corbani, M., Nádasdi, L., Ramachandran, J., Smith, G.M. and Sadee, W. 1991. Structure and function of G protein-coupled receptors. Pharm. Res. 7: 1213-1221.
2. Probst, W.C., Snyder, L.A., Schuster, D.I., Brosius, J. and Sealfon, S.C. 1992. Sequence alignment of the G protein-coupled receptor superfamily. DNA Cell Biol. 11: 1-20.
3. Fredriksson, R., Gloriam, D.E., Hoglund, P.J., Lagerstrom, M.C. and Schioth, H.B. 2003. There exist at least 30 human G protein-coupled receptors with long Ser/Thr-rich N-termini. Biochem. Biophys. Res. Commun. 301: 752-734.
4. Bjarnadóttir, T.K., Fredriksson, R., Höglund, P.J., Gloriam, D.E., Lagerström, M.C. and Schiöth, H.B. 2004. The human and mouse repertoire of the adhesion family of receptors. Genomics 84: 23-33.
5. Lee, J., Hever, A., Willhite, D., Zlotnik, A. and Hevezi, P. 2005. Effects of RNA degradation on gene expression analysis of human postmortem tissues. FASEB J. 19: 1356-1358.
6. Felix, N.J., Suri, A., Walters, J.J., Horvath, S., Gross, M.L. and Allen, P.M. 2006. I-Ep-bound self-peptides: identification, characterization, and role in alloreactivity. J. Immunol. 176: 1062-1071.

CHROMOSOMAL LOCATION

Genetic locus: GPR128 (human) mapping to 3q12.2.

PRODUCT

GPR128 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 GPR128 shRNA Plasmid (h): sc-60739-SH and GPR128 shRNA (h) Lentiviral Particles: sc-60739-V as alternate gene silencing products.

For independent verification of GPR128 (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-60739A, sc-60739B and sc-60739C.

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

GPR128 siRNA (h) is recommended for the inhibition of GPR128 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 GPR128 gene expression knockdown using RT-PCR Primer: GPR128 (h)-PR: sc-60739-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.