SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\gamma\ 11}$ siRNA (h): sc-105378

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the guanine nucleotide-binding protein (G protein) γ family directly regulate various activities of ion channels and enzymes. Eight known human G protein γ subunits exist, three of which are novel forms that are designated $G_{\gamma\ 4}$, $G_{\gamma\ 10}$ and $G_{\gamma\ 11}$. $G_{\gamma\ 11}$ (guanine nucleotide binding protein (G protein), $_{\gamma\ 11}$), also known as GNGT11 or GNG11, is a 73 amino acid lipid-anchored, cell membrane protein belonging to the G protein γ family. $G_{\gamma\ 11}$ is essential for GTPase activity, G protein-effector interaction and re-placement of GDP by GTP. Involved in transmembrane signaling and cellular senescence, $G_{\gamma\ 11}$ is abundantly expressed in most tissues (with the exception of brain). Decreased expression of $G_{\gamma\ 11}$ may be linked to splenic marginal zone lymphomas, and the gene encoding $G_{\gamma\ 11}$ maps to human chromosome 7q21.3.

REFERENCES

1. Cali, J.J., et al. 1992. Selective tissue distribution of G protein γ subunits, including a new form of the γ subunits identified by cDNA cloning. J. Biol. Chem. 267: 24023-24027.
2. Ray, K., et al. 1995. Isolation of cDNA clones encoding eight different human G protein γ subunits, including three novel forms designated the γ 4, γ 10 and γ 11 subunits. J. Biol. Chem. 270: 21765-21771.
3. Downes, G.B. and Gautam, N. 1999. The G protein subunit gene families. Genomics 62: 544-552.
4. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 604390. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Cuello, F., et al. 2003. Activation of heterotrimeric G proteins by a high energy phosphate transfer via nucleoside diphosphate kinase (NDPK) B and G_{β} subunits. Complex formation of NDPK B with $G_{\beta\ \gamma}$ dimers and phosphorylation of His-266 IN G_{β}. J. Biol. Chem. 278: 7220-7226.
6. Ruiz-Ballesteros, E., et al. 2005. Splenic marginal zone lymphoma: proposal of new diagnostic and prognostic markers identified after tissue and cDNA microarray analysis. Blood 106: 1831-1838.

CHROMOSOMAL LOCATION

Genetic locus: GNG11 (human) mapping to 7q21.3.

PRODUCT

$G_{\gamma\ 11}$ siRNA (h) is a pool of 2 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 $G_{\gamma\ 11}$ shRNA Plasmid (h): sc-105378-SH and $G_{\gamma\ 11}$ shRNA (h) Lentiviral Particles: sc-105378-V as alternate gene silencing products.

For independent verification of $G_{\gamma\ 11}$ (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-105378A and sc-105378B.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

$G_{\gamma\ 11}$ siRNA (h) is recommended for the inhibition of $G_{\gamma\ 11}$ 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 $G_{\gamma\ 11}$ gene expression knockdown using RT-PCR Primer: $G_{\gamma\ 11}$ (h)-PR: sc-105378-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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