SANTA CRUZ BIOTECHNOLOGY, INC.

$G_{\gamma\ 12}$ siRNA (h): sc-88366

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 $G_{\gamma\ 11}$. $G_{\gamma\ 12}$ (guanine nucleotide binding protein (G protein), γ 12), also known as GNG12, is a 72 amino acid lipid-anchored, cell membrane protein belonging to the G protein γ family. $G_{\gamma\ 12}$ is essential for GTPase activity, G protein-effector interaction and replacement of GDP by GTP. $G_{\gamma\ 12}$ may function as a negative regulator of the LPS response and may also be an important factor in the overall inflammatory signaling cascade, which has a central role in many neurodegenerative diseases such as Alzheimer's, AIDS dementia and Parkinson's.

REFERENCES

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3. Downes, G.B. and Gautam, N. 1999. The G protein subunit gene families. Genomics 62: 544-552.
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CHROMOSOMAL LOCATION

Genetic locus: GNG12 (human) mapping to 1p31.3.

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.

PRODUCT

$G_{\gamma\ 12}$ 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 $G_{\gamma\ 12}$ shRNA Plasmid (h): sc-88366-SH and $G_{\gamma\ 12}$ shRNA (h) Lentiviral Particles: sc-88366-V as alternate gene silencing products.

For independent verification of $G_{\gamma\ 12}$ (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-88366A, sc-88366B and sc-88366C.

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

$G_{\gamma\ 12}$ siRNA (h) is recommended for the inhibition of $G_{\gamma\ 12}$ 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 $G_{\gamma\ 12}$ gene expression knockdown using RT-PCR Primer: $G_{\gamma\ 12}$ (h)-PR: sc-88366-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.