SANTA CRUZ BIOTECHNOLOGY, INC.

# $G_{\gamma\ 12}$ siRNA (m): sc-145285

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*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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7. Larson, K.C., Lipko, M., Dabrowski, M. and Draper, M.P. 2010. Gng12 is a novel negative regulator of LPS-induced inflammation in the microglial cell line BV-2. Inflamm. Res. 59: 15-22.


## CHROMOSOMAL LOCATION

Genetic locus: Gng12 (mouse) mapping to 6 C1.

## 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 (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 $G_{\gamma\ 12}$ shRNA Plasmid (m): sc-145285-SH and $G_{\gamma\ 12}$ shRNA (m) Lentiviral Particles: sc-145285-V as alternate gene silencing products.

For independent verification of $G_{\gamma\ 12}$ (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-145285A, sc-145285B and sc-145285C.

## 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 (m) is recommended for the inhibition of $G_{\gamma\ 12}$ 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 $G_{\gamma\ 12}$ gene expression knockdown using RT-PCR Primer: $G_{\gamma\ 12}$ (m)-PR: sc-145285-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.