SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase C2γ siRNA (m): sc-61339

BACKGROUND

Phosphoinositide 3-kinase activity is implicated in assorted cellular responses activated by mammalian cell surface receptors and the regulation of protein sorting in yeast. The p110γ (PIK3CG) enzyme is activated *in vitro* by both the α and βγ subunits of heterotrimeric GTP-binding proteins (G proteins) and does not associate with a p85 adaptor molecule. PI 3-kinase C2γ, also designated p110γ, may link signaling through G protein-coupled receptors to the generation of phosphoinositide second messengers that are phosphorylated in the D-3 position. The PI 3-kinase C2γ gene encodes a 1,050-amino acid polypeptide with 36% identity to human PI 3-kinase C2α. Research indicates that PI 3-kinase C2γ can block the growth of human colon cancer cells.

REFERENCES

1. Stoyanov, B., et al. 1995. Cloning and characterization of a G protein-activated human phosphoinositide-3 kinase. Science 269: 690-693.
2. Sasaki, T., et al. 2000. Colorectal carcinomas in mice lacking the catalytic subunit of PI(3)Kγ. Nature 406: 897-902.
3. Sasaki, T., et al. 2000. Function of PI3Kγ in thymocyte development, T cell activation, and neutrophil migration. Science 287: 1040-1046.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 601232. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Barber, D.F., et al. 2005. PI3Kγ inhibition blocks glomerulonephritis and extends lifespan in a mouse model of systemic lupus. Nat. Med. 11: 933-935.

CHROMOSOMAL LOCATION

Genetic locus: Pik3c2g (mouse) mapping to 6 G2.

PRODUCT

PI 3-kinase C2γ 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 PI 3-kinase C2γ shRNA Plasmid (m): sc-61339-SH and PI 3-kinase C2γ shRNA (m) Lentiviral Particles: sc-61339-V as alternate gene silencing products.

For independent verification of PI 3-kinase C2γ (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-61339A, sc-61339B and sc-61339C.

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

PI 3-kinase C2γ siRNA (m) is recommended for the inhibition of PI 3-kinase C2γ 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 PI 3-kinase C2γ gene expression knockdown using RT-PCR Primer: PI 3-kinase C2γ (m)-PR: sc-61339-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.