

PI 3-kinase C2 β siRNA (h): sc-61346

BACKGROUND

Phosphoinositide 3-kinases (PI 3-Ks) phosphorylate the 3'-OH position of the inositol ring of inositol lipids. They act as participants in signaling pathways that regulate cell growth by virtue of their activation in response to various mitogenic stimuli. PI 3-Ks are composed of a catalytic subunit, such as PI 3-kinase C2 β (PIK3CB) and an adaptor subunit. PI 3-kinase C2 β , also known as p110- β , is a 1,070 amino acid protein that shares 42% identity with p110 of cow origin. It is expressed in several human and rodent cell lines. Studies predict that PI 3-kinase C2 β has a role in modulating the formation and stability of α 2B (ITGA2B)/ β 3 (ITGB3) Integrin adhesion bonds, which are essential in shear force-induced platelet activation.

REFERENCES

1. Hu, P., et al. 1993. Cloning of a novel, ubiquitously expressed human phosphatidylinositol 3-kinase and identification of its binding site on p85. *Mol. Cell. Biol.* 13: 7677-7688.
2. Roche, S., et al. 1998. A function for phosphatidylinositol 3-kinase β (p85 α -p110 β) in fibroblasts during mitogenesis: requirement for Insulin- and lysophosphatidic acid-mediated signal transduction. *Mol. Cell. Biol.* 18: 7119-7129.
3. Kossila, M., et al. 2000. Gene encoding the catalytic subunit p110 β of human phosphatidylinositol 3-kinase: cloning, genomic structure, and screening for variants in patients with type 2 diabetes. *Diabetes* 49: 1740-1743.
4. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 602925. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Jackson, S.P., et al. 2005. PI 3-kinase p110 β : a new target for antithrombotic therapy. *Nat. Med.* 11: 507-514.

CHROMOSOMAL LOCATION

Genetic locus: PIK3C2B (human) mapping to 1q32.1.

PRODUCT

PI 3-kinase C2 β 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PI 3-kinase C2 β shRNA Plasmid (h): sc-61346-SH and PI 3-kinase C2 β shRNA (h) Lentiviral Particles: sc-61346-V as alternate gene silencing products.

For independent verification of PI 3-kinase C2 β (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-61346A, sc-61346B and sc-61346C.

PROTOCOLS

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

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PI 3-kinase C2 β siRNA (h) is recommended for the inhibition of PI 3-kinase C2 β 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 μ M in 66 μ l. 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.

GENE EXPRESSION MONITORING

PI 3-kinase C2 β (A-3): sc-377064 is recommended as a control antibody for monitoring of PI 3-kinase C2 β gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PI 3-kinase C2 β gene expression knockdown using RT-PCR Primer: PI 3-kinase C2 β (h)-PR: sc-61346-PR (20 μ l). 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.