SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase p55γ siRNA (h): sc-39124

BACKGROUND

Phosphatidylinositol 3-kinase is a lipid kinase that phosphorylates the inositol ring of phosphatidylinositol and related compounds at the 3' position. PI 3-kinase p55γ (PIK3R3) is comprised of a catalytic subunit and a regulatory subunit. The human p55γ protein is composed of a rare amino-terminal region followed by a proline-rich motif and two Src homology 2 (SH2) domains. PI 3-kinase p55γ mRNAs are expressed in most human fetal and adult tissues; predominant expression is observed in the adult testis. Splice variants of PI 3-kinase p55γ have been identified; one of which has a deletion of 36 amino acids at the amino-terminus and another which has an insertion of 59 amino acids at position 256 between the SH2 domains. Research suggests that PI 3-kinase p55γ interacts with the IGFIR (Insulin-like growth factor-I receptor) and IR (Insulin receptor) and may be involved in PI 3-kinase activation by these receptors.

REFERENCES

1. Dey, B.R., et al. 1998. Cloning of human p55γ, a regulatory subunit of phosphatidylinositol 3-kinase, by a yeast two-hybrid library screen with the Insulin-like growth factor-I receptor. Gene 209: 175-183.
2. Xia, X. and Serrero, G. 1999. Multiple forms of p55PIK, a regulatory subunit of phosphoinositide 3-kinase, are generated by alternative initiation of translation. Biochem. J. 341: 831-837.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606076. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: PIK3R3 (human) mapping to 1p34.1.

PRODUCT

PI 3-kinase p55γ 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 PI 3-kinase p55γ shRNA Plasmid (h): sc-39124-SH and PI 3-kinase p55γ shRNA (h) Lentiviral Particles: sc-39124-V as alternate gene silencing products.

For independent verification of PI 3-kinase p55γ (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-39124A, sc-39124B and sc-39124C.

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 p55γ siRNA (h) is recommended for the inhibition of PI 3-kinase p55γ 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.

GENE EXPRESSION MONITORING

PI 3-kinase p55γ (E-9): sc-376615 is recommended as a control antibody for monitoring of PI 3-kinase p55γ 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 p55γ gene expression knockdown using RT-PCR Primer: PI 3-kinase p55γ (h)-PR: sc-39124-PR (20 µl, 508 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhou, J., et al. 2012. Genetic and bioinformatic analyses of the expression and function of PI3K regulatory subunit PIK3R3 in an Asian patient gastric cancer library. BMC Med. Genomics 5: 34.

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.