SANTA CRUZ BIOTECHNOLOGY, INC.

PI 3-kinase p101 siRNA (h): sc-94221

BACKGROUND

PI 3-kinase p101 is an 880 amino acid protein that acts as a regulatory subunit of the PI3 kinase γ complex. PI 3-kinase p101 interacts with PI 3-kinase p110γ to form the PI3 kinase γ complex, which is activated by G βγ proteins and plays a role in many physiological processes, such as cardiac function, neutrophil chemotaxis and mast cell degranulation. Specifically, the PI3 kinase γ complex is involved in suppression of apoptosis, cellular transport and cell motility. Binding of the PI 3-kinase p110γ subunit to PI 3-kinase p101 is dependent on the N-terminal region of PI 3-kinase p101. With highest expression in leukocytes, spleen lymph node thymus and bone marrow, PI 3-kinase p101 is subcellularly located in the nucleus, cytoplasm, or it can exist as a peripheral membrane protein. There are two isoforms of PI 3-kinase p101 that are produced as a result of alternative splicing.

REFERENCES

1. Franke, T.F., et al. 1997. PI3K: downstream AKTion blocks apoptosis. Cell 88: 435-437.
2. Stephens, L.R., et al. 1997. The $G_{\beta\gamma}$ sensitivity of a PI3K is dependent upon a tightly associated adaptor, p101. Cell 89: 105-114.
3. Toker, A. and Cantley, L.C. 1997. Signalling through the lipid products of phosphoinositide-3-OH kinase. Nature 387: 673-676.
4. Krugmann, S., et al. 1999. Characterizing the interactions between the two subunits of the p101/p110γ phosphoinositide 3-kinase and their role in the activation of this enzyme by $G_{\beta\gamma}$ subunits. J. Biol. Chem. 274: 17152-17158.
5. Stephens, L., et al. 2002. Roles of PI3Ks in leukocyte chemotaxis and phagocytosis. Curr. Opin. Cell Biol. 14: 203-213.
6. Brock, C., et al. 2003. Roles of G beta gamma in membrane recruitment and activation of p110 γ/p101 phosphoinositide 3-kinase γ. J. Cell Biol. 160: 89-99.

CHROMOSOMAL LOCATION

Genetic locus: PIK3R5 (human) mapping to 17p13.1.

PRODUCT

PI 3-kinase p101 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 p101 shRNA Plasmid (h): sc-94221-SH and PI 3-kinase p101 shRNA (h) Lentiviral Particles: sc-94221-V as alternate gene silencing products.

For independent verification of PI 3-kinase p101 (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-94221A, sc-94221B and sc-94221C.

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 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 p101 siRNA (h) is recommended for the inhibition of PI 3-kinase p101 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 p101 (E-12): sc-390916 is recommended as a control antibody for monitoring of PI 3-kinase p101 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 p101 gene expression knockdown using RT-PCR Primer: PI 3-kinase p101 (h)-PR: sc-94221-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.