

PI 3-kinase p101 (K-17): sc-168955

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 p110 γ to form the PI3 kinase γ complex, which is activated by $G_{\beta\gamma}$ 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 p110 γ 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., Kaplan, D.R. and Cantley, L.C. 1997. PI3K: downstream AKTion blocks apoptosis. *Cell* 88: 435-437.
2. Stephens, L.R., Eguinoa, A., Erdjument-Bromage, H., Lui, M., Cooke, F., Coadwell, J., Smrcka, A.S., Thelen, M., Cadwallader, K., Tempst, P. and Hawkins, P.T. 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., Hawkins, P.T., Pryer, N. and Braselmann, S. 1999. Characterizing the interactions between the two subunits of the p101/p110 γ 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., Ellson, C. and Hawkins, P. 2002. Roles of PI3Ks in leukocyte chemotaxis and phagocytosis. *Curr. Opin. Cell Biol.* 14: 203-213.
6. Brock, C., Schaefer, M., Reusch, H.P., Czupalla, C., Michalke, M., Spicher, K., Schultz, G. and Nürnberg, B. 2003. Roles of $G_{\beta\gamma}$ in membrane recruitment and activation of p110 gamma/p101 phosphoinositide 3-kinase gamma. *J. Cell Biol.* 160: 89-99.
7. Kerchner, K.R., Clay, R.L., McCleery, G., Watson, N., McIntire, W.E., Myung, C.S. and Garrison, J.C. 2004. Differential sensitivity of phosphatidylinositol 3-kinase p110 γ to isoforms of G protein $\beta\gamma$ dimers. *J. Biol. Chem.* 279: 44554-44562.

CHROMOSOMAL LOCATION

Genetic locus: PIK3R5 (human) mapping to 17p13.1; Pik3r5 (mouse) mapping to 11 B3.

SOURCE

PI 3-kinase p101 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PI 3-kinase p101 of human origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-168955 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PI 3-kinase p101 (K-17) is recommended for detection of PI 3-kinase p101 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other PI 3-kinase p family members.

PI 3-kinase p101 (K-17) is also recommended for detection of PI 3-kinase p101 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PI 3-kinase p101 siRNA (h): sc-94221, PI 3-kinase p101 siRNA (m): sc-152242, PI 3-kinase p101 shRNA Plasmid (h): sc-94221-SH, PI 3-kinase p101 shRNA Plasmid (m): sc-152242-SH, PI 3-kinase p101 shRNA (h) Lentiviral Particles: sc-94221-V and PI 3-kinase p101 shRNA (m) Lentiviral Particles: sc-152242-V.

Molecular Weight of PI 3-kinase p101: 101 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

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



Try **PI 3-kinase p101 (E-12): sc-390916**, our highly recommended monoclonal alternative to PI 3-kinase p101 (K-17).