

# PI 3-kinase p110 $\gamma$ (N-15): sc-1405

## BACKGROUND

Phosphatidylinositol 3-kinase (PI 3-kinase) is composed of p85 and p110 subunits. p85 lacks PI 3-kinase activity and acts as an adapter, coupling p110 to activated protein tyrosine kinase. Two forms of p85 have been described (p85 $\alpha$  and p85 $\beta$ ), each possessing one SH3 and two SH2 domains. Various p110 isoforms have been identified. p110 $\alpha$  and p110 $\beta$  interact with p85 $\alpha$ , and p110 $\alpha$  has also been shown to interact with p85 $\beta$  *in vitro*. p110 $\delta$  expression is restricted to white blood cells. It has been shown to bind p85 $\alpha$  and  $\beta$ , but it apparently does not phosphorylate these subunits. p110 $\delta$  seems to have the capacity to autophosphorylate. p110 $\gamma$  does not interact with the p85 subunits. It has been shown to be activated by  $\alpha$  and  $\beta\gamma$  heterotrimeric G proteins.

## REFERENCES

1. Skolnik, E.Y., et al. 1991. Cloning of PI3 kinase-associated p85 utilizing a novel method for expression/cloning of target proteins for receptor tyrosine kinases. *Cell* 65: 83-90.
2. Otsu, M., et al. 1991. Characterization of two 85 kDa proteins that associate with receptor tyrosine kinases, middle-T/pp60-Src complexes, and PI3-kinase. *Cell* 65: 91-104.
3. Hiles, I.D., et al. 1992. Phosphatidylinositol 3-kinase: structure and expression of the 110 kd catalytic subunit. *Cell* 70: 419-429.
4. 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.
5. Stoyanov, B., et al. 1995. Cloning and characterization of a G protein-activated human phosphoinositide-3 kinase. *Science* 269: 690-693.
6. Vanhaesebroeck, B., et al. 1997. p110 $\delta$ , a novel phosphoinositide 3-kinase in leukocytes. *Proc. Natl. Acad. Sci. USA* 94: 4330-4335.

## CHROMOSOMAL LOCATION

Genetic locus: PIK3CG (human) mapping to 7q22.3; Pik3cg (mouse) mapping to 12 A3.

## SOURCE

PI 3-kinase p110 $\gamma$  (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping central region of PI 3-kinase p110 $\gamma$  of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-1405 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PI 3-kinase p110 $\gamma$  (N-15) is recommended for detection of PI 3-kinase p110 $\gamma$  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).

PI 3-kinase p110 $\gamma$  (N-15) is also recommended for detection of PI 3-kinase p110 $\gamma$  in additional species, including avian.

Suitable for use as control antibody for PI 3-kinase p110 $\gamma$  siRNA (h): sc-39129, PI 3-kinase p110 $\gamma$  siRNA (m): sc-39130, PI 3-kinase p110 $\gamma$  shRNA Plasmid (h): sc-39129-SH, PI 3-kinase p110 $\gamma$  shRNA Plasmid (m): sc-39130-SH, PI 3-kinase p110 $\gamma$  shRNA (h) Lentiviral Particles: sc-39129-V and PI 3-kinase p110 $\gamma$  shRNA (m) Lentiviral Particles: sc-39130-V.

Molecular Weight of PI 3-kinase p110 $\gamma$ : 110 kDa.

Positive Controls: U-937 cell lysate: sc-2239.

## 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.

## SELECT PRODUCT CITATIONS

1. Sasaki, T., et al. 2000. Colorectal carcinomas in mice lacking the catalytic subunit of PI(3)K $\gamma$ . *Nature* 406: 897-902.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **PI 3-kinase p110 $\gamma$  (D-12): sc-166365**, our highly recommended monoclonal alternative to PI 3-kinase p110 $\gamma$  (N-15).