

# PI 3-kinase p110 $\beta$ (S-19): sc-602

## 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 p85 $\beta$ , 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.

## CHROMOSOMAL LOCATION

Genetic locus: PIK3CB (human) mapping to 3q22.3; Pik3cb (mouse) mapping to 9 E3.3.

## SOURCE

PI 3-kinase p110 $\beta$  (S-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of PI 3-kinase p110 $\beta$  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-602 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PI 3-kinase p110 $\beta$  (S-19) is recommended for detection of PI 3-kinase p110 $\beta$  of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 $\beta$  (S-19) is also recommended for detection of PI 3-kinase p110 $\beta$  in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PI 3-kinase p110 $\beta$  siRNA (h): sc-37269, PI 3-kinase p110 $\beta$  siRNA (m): sc-29447, PI 3-kinase p110 $\beta$  shRNA Plasmid (h): sc-37269-SH, PI 3-kinase p110 $\beta$  shRNA Plasmid (m): sc-29447-SH, PI 3-kinase p110 $\beta$  shRNA (h) Lentiviral Particles: sc-37269-V and PI 3-kinase p110 $\beta$  shRNA (m) Lentiviral Particles: sc-29447-V.

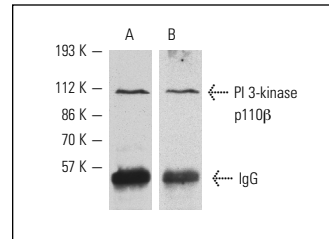
Molecular Weight of PI 3-kinase p110 $\beta$ : 110 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or C32 whole cell lysate: sc-2205.

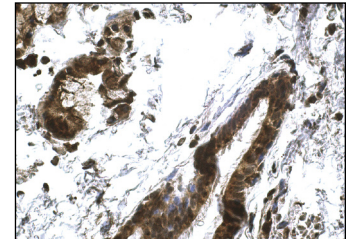
## STORAGE

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

## DATA



Western blot analysis of PI 3-kinase p110 $\beta$  expression in anti-phosphotyrosine immunoenriched K-562 whole cell lysates (A, B). Antibodies tested include PI 3-kinase p110 $\beta$  (S-19): sc-602 (A) and PI 3-kinase p110 $\beta$  (N-20): sc-603 (B).



PI 3-kinase p110 $\beta$  (S-19): sc-602. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic and nuclear staining of respiratory epithelial cells.

## SELECT PRODUCT CITATIONS

- Murga, C., et al. 2000. A novel role for phosphatidylinositol 3-kinase  $\beta$  in signaling from G protein-coupled receptor to Akt. *J. Biol. Chem.* 275: 12069-12073.
- Sasaki, T., et al. 2000. Colorectal carcinomas in mice lacking the catalytic subunit of PI3K $\gamma$ . *Nature* 406: 897-902.
- Acosta, Y.Y., et al. 2010. Biased binding of class IA phosphatidylinositol 3-kinase subunits to inducible costimulator (CD278). *Cell. Mol. Life Sci.* 68: 3065-3079.
- Hohenester, S., et al. 2010. Phosphatidylinositol-3-kinase p110 $\gamma$  contributes to bile salt-induced apoptosis in primary rat hepatocytes and human hepatoma cells. *J. Hepatol.* 53: 918-926.
- Ye, Z.W., et al. 2011. Silencing p110 $\beta$  prevents rapid depletion of nuclear pAkt. *Biochem. Biophys. Res. Commun.* 415: 613-618.
- Geering, B., et al. 2011. A novel TNFR1-triggered apoptosis pathway mediated by class IA PI3Ks in neutrophils. *Blood* 117: 5953-5962.
- Miraglia, E., et al. 2011. Statins exhibit anticancer effects through modifications of the pAkt signaling pathway. *Int. J. Oncol.* 40: 867-875.
- Riggio, M., et al. 2012. PI3K/AKT pathway regulates phosphorylation of steroid receptors, hormone independence and tumor differentiation in breast cancer. *Carcinogenesis* 33: 509-518.

## RESEARCH USE

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



Try **PI 3-kinase p110 $\beta$  (C-8): sc-376641** or **PI 3-kinase p110 $\beta$  (D-2): sc-376492**, our highly recommended monoclonal alternatives to PI 3-kinase p110 $\beta$  (S-19).