

# PI 4-kinase II $\beta$ (A-13): sc-162012

## BACKGROUND

Phosphatidylinositol (PI) kinases participate in the first step in activating important cellular effectors, such as PIP2 (phosphatidylinositol bisphosphate) and PTEN. Unlike other PI-kinases, PI 4-kinase family members only phosphorylate phosphatidylinositols, are potently inhibited by adenosine and lack a trans-membrane domain. Total PI 4-kinase activity is dependent upon PI 4-kinase  $\beta$ , PI 4-kinase  $\alpha$ , PI 4-kinase II  $\alpha$  and PI 4-kinase II  $\beta$  activities. PI 4-kinase II  $\beta$  (phosphatidylinositol 4-kinase type II- $\beta$ ) is a 481 amino acid protein that is recruited to the membrane from the cytosol to stimulate synthesis of PIP2 and, in this way, PI 4-kinase II  $\beta$  contributes to the production of IP3. PI 4-kinase II  $\beta$  may also be involved in the regulation of vesicular trafficking due to its associations with the endoplasmic reticulum and the golgi apparatus. T-cells specific for PI 4-kinase II  $\beta$  lyse normal and malignant hematopoietic cells, suggesting that PI 4-kinase II  $\beta$  may play a role in antitumor immunity.

## REFERENCES

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- Wei, Y.J., et al. 2002. Type II phosphatidylinositol 4-kinase  $\beta$  is a cytosolic and peripheral membrane protein that is recruited to the plasma membrane and activated by Rac-GTP. *J. Biol. Chem.* 277: 46586-46593.
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- Griffioen, M., et al. 2008. Identification of phosphatidylinositol 4-kinase type II  $\beta$  as HLA class II-restricted target in graft versus leukemia reactivity. *Proc. Natl. Acad. Sci. USA* 105: 3837-3842.

## CHROMOSOMAL LOCATION

Genetic locus: Pi4k2b (mouse) mapping to 5 C1.

## SOURCE

PI 4-kinase II  $\beta$  (A-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PI 4-kinase II  $\beta$  of mouse 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-162012 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PI 4-kinase II  $\beta$  (A-13) is recommended for detection of PI 4-kinase II  $\beta$  of mouse and rat 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 PI 4-kinase II  $\alpha$ .

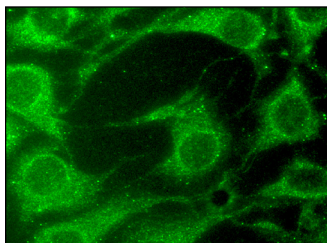
Suitable for use as control antibody for PI 4-kinase II  $\beta$  siRNA (m): sc-152244, PI 4-kinase II  $\beta$  shRNA Plasmid (m): sc-152244-SH and PI 4-kinase II  $\beta$  shRNA (m) Lentiviral Particles: sc-152244-V.

Molecular Weight of PI 4-kinase II  $\beta$ : 54 kDa.

## 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.

## DATA



PI 4-kinase II  $\beta$  (A-13): sc-162012. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

## STORAGE

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

## 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.