

# PI 3-kinase C2 $\gamma$ (M-228): sc-134768

## BACKGROUND

Phosphoinositide 3-kinase activity is implicated in assorted cellular responses activated by mammalian cell surface receptors and the regulation of protein sorting in yeast. The p110 $\gamma$  (PIK3CG) enzyme is activated *in vitro* by both the  $\alpha$  and  $\beta\gamma$  subunits of heterotrimeric GTP-binding proteins (G proteins) and does not associate with a p85 adaptor molecule. PI 3-kinase C2 $\gamma$ , also designated p110 $\gamma$ , may link signaling through G protein-coupled receptors to the generation of phosphoinositide second messengers that are phosphorylated in the D-3 position. The PI 3-kinase C2 $\gamma$  gene encodes a 1,050 amino acid polypeptide with 36% identity to human PI 3-kinase C2 $\alpha$ . Research indicates that PI 3-kinase C2 $\gamma$  can block the growth of human colon cancer cells.

## REFERENCES

1. Stoyanov, B., et al. 1995. Cloning and characterization of a G protein-activated human phospho-inositide 3-kinase. *Science* 269: 690-693.
2. Sasaki, T., et al. 2000. Colorectal carcinomas in mice lacking the catalytic subunit of PI 3-K $\gamma$ . *Nature* 406: 897-902.
3. Sasaki, T., et al. 2000. Function of PI 3-K $\gamma$  in thymocyte development, T cell activation, and neutrophil migration. *Science* 287: 1040-1046.
4. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 601232. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Barber, D.F., et al. 2005. PI 3-K $\gamma$  inhibition blocks glomerulonephritis and extends lifespan in a mouse model of systemic lupus. *Nat. Med.* 11: 933-935.

## CHROMOSOMAL LOCATION

Genetic locus: PIK3C2B (human) mapping to 1q32.1; Pik3c2g (mouse) mapping to 6 G2.

## SOURCE

PI 3-kinase C2 $\gamma$  (M-228) is a rabbit polyclonal antibody raised against amino acids 1203-1430 mapping near the C-terminus of PI 3-kinase C2 $\gamma$  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.

## STORAGE

Store at 4 $^{\circ}$  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.

## APPLICATIONS

PI 3-kinase C2 $\gamma$  (M-228) is recommended for detection of PI 3-kinase C2 $\gamma$  of mouse, rat and, to a lesser extent, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PI 3-kinase C2 $\gamma$  siRNA (h): sc-61338, PI 3-kinase C2 $\gamma$  siRNA (m): sc-61339, PI 3-kinase C2 $\gamma$  shRNA Plasmid (h): sc-61338-SH, PI 3-kinase C2 $\gamma$  shRNA Plasmid (m): sc-61339-SH, PI 3-kinase C2 $\gamma$  shRNA (h) Lentiviral Particles: sc-61338-V and PI 3-kinase C2 $\gamma$  shRNA (m) Lentiviral Particles: sc-61339-V.

Molecular Weight of PI 3-kinase C2 $\gamma$ : 185 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker<sup>™</sup> compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz<sup>™</sup> Mounting Medium: sc-24941.