

# PI 3-kinase C2 $\alpha$ (C-19): sc-48637

## BACKGROUND

Phosphatidylinositol 3-kinases (PI3Ks) phosphorylate the 3' OH position of the inositol ring of inositol lipids. Human PI 3-kinase C2 $\alpha$  (PIK3C2A, C2-containing phosphatidylinositol kinase, p110 $\alpha$  or CPK) contains a C-terminal calcium-binding and phospholipid-binding module known as the C2 domain. The cDNA sequence of PI 3-kinase C2 $\alpha$  predicts a 1,686-amino acid protein that is 90% identical to mouse Cpk (term for the *Drosophila* homolog). Northern blot analysis reveals that PI 3-kinase C2 $\alpha$  is expressed as an 8 kb mRNA in a wide variety of tissues. *In vitro*, the PI 3-kinase C2 $\alpha$  enzyme can phosphorylate phosphatidylinositol and phosphatidylinositol-4-phosphate. The PI 3-kinase C2 $\alpha$  gene contains 32 exons and spans approximately 76 kb.

## REFERENCES

1. Molz, L., et al. 1996. Cpk is a novel class of *Drosophila* PtdIns 3-kinase containing a C2 domain. *J. Biol. Chem.* 271: 13892-13899.
2. Domin, J., et al. 1997. Cloning of a human phosphoinositide 3-kinase with a C2 domain that displays reduced sensitivity to the inhibitor Wortmannin. *Biochem. J.* 326: 139-147.
3. Caldwell, et al. 2001. Mapping of genes and transcribed sequences in a gene rich 400 kb region on human chromosome 11p15.1→p14. *Cytogenet. Cell Genet.* 92: 103-107.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 603601. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Zheleznova, N.N., et al. 2003. The role of phosphatidylinositol 3-kinases p85/p110 and hVPS34 in endocytosis of EGF-receptor complexes. *Tsitologiya* 45: 574-581.
6. Kang, S., et al. 2005. Suppression of the  $\alpha$  isoform of class II phosphoinositide 3-kinase gene expression leads to apoptotic cell death. *Biochem. Biophys. Res. Commun.* 329: 6-10.

## CHROMOSOMAL LOCATION

Genetic locus: PIK3C2A (human) mapping to 11p15.1; Pik3c2a (mouse) mapping to 7 F1.

## SOURCE

PI-3 kinase C2 $\alpha$  (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PI 3-kinase C2 $\alpha$  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-48637 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 C2 $\alpha$  (C-19) is recommended for detection of PI 3-kinase C2 $\alpha$  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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

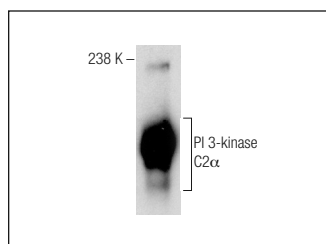
PI 3-kinase C2 $\alpha$  (C-19) is also recommended for detection of PI 3-kinase C2 $\alpha$  in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for PI 3-kinase C2 $\alpha$  siRNA (h): sc-61340, PI 3-kinase C2 $\alpha$  siRNA (m): sc-61341, PI 3-kinase C2 $\alpha$  shRNA Plasmid (h): sc-61340-SH, PI 3-kinase C2 $\alpha$  shRNA Plasmid (m): sc-61341-SH, PI 3-kinase C2 $\alpha$  shRNA (h) Lentiviral Particles: sc-61340-V and PI 3-kinase C2 $\alpha$  shRNA (m) Lentiviral Particles: sc-61341-V.

Molecular Weight of PI-3 kinase C2 $\alpha$ : 190 kDa.

Positive Controls: rat brain extract: sc-2392 or HeLa whole cell lysate: sc-2200.

## DATA



PI 3-kinase C2 $\alpha$  (C-19): sc-48637. Western blot analysis of PI 3-kinase C2 $\alpha$  expression in rat brain tissue extract.

## 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.

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Try **PI 3-kinase C2 $\alpha$  (G-5): sc-365290** or **PI 3-kinase C2 $\alpha$  (17): sc-136298**, our highly recommended monoclonal alternatives to PI 3-kinase C2 $\alpha$  (C-19).