Revision 1

#4039 Store at -20C

# INPP4b Antibody

Cell Signaling TECHNOLOGY®

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**For Research Use Only. Not for Use in Diagnostic Procedures.**

| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source: | UniProt ID: | Entrez-Gene Id: |
|---|---|---|---|---|---|---|
| WB | H R Mk | Endogenous | 110 | Rabbit | #O15327 | 8821 |

## Product Usage Information

| Application | Dilution |
|---|---|
| Western Blotting | 1:1000 |

## Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

## Specificity / Sensitivity

INPP4b Antibody detects endogenous levels of total INPP4b protein.

## Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to an amino acid sequence at the carboxyl terminus of human INPP4b. Antibodies are purified by Protein A and peptide affinity chromatography.

## Background

Phosphatidylinositol lipids and phosphoinositides are important second messengers, their generation controlling many cellular events. Intracellular levels of these molecules are regulated by phosphoinositide kinases and phosphatases. One of the best characterized lipid kinases is phosphoinositide 3-kinase (PI3K), which is responsible for phosphorylation on the D-3 position of the inositide head group (1). This action of PI3K catalyzes the production of phosphatidylinositol-3,4,5-triphosphate by phosphorylating phosphatidylinositol (PI), phosphatidylinositol-4-phosphate (PIP), and phosphatidylinositol-4,5-bisphosphate (PIP2). Growth factors and hormones trigger this phosphorylation event, which in turn coordinates cell growth, cell cycle entry, cell migration, and cell survival (1). PTEN, the well characterized partnering phosphatase, reverses this process by removing the phosphate from PI(3,4,5)P3 at the D-3 position to generate PI(4,5)P2 (1,2). Dephosphorylation on the D-5 position to generate PI(3,4)P2 occurs through the action of SHIP1 or SHIP2 (3), and dephosphorylation on the D-4 position to generate PI(3)P can occur through the action of inositol polyphosphate 4-phosphatase isoenzymes type I (INPP4a) and type II (INPP4b) (4,5). While INPP4a has been implicated in neuronal survival and megakaryocyte lineage determination (6,7), less is understood about INPP4b. It has been shown that two splice variants of INPP4b occur in mice, each showing distinct tissue distribution and subcellular localization (5,8).

## Background References

1. Cantley, L.C. (2002) *Science* 296, 1655-7.
2. Myers, M.P. et al. (1998) *Proc Natl Acad Sci USA* 95, 13513-8.
3. Ware, M.D. et al. (1996) *Blood* 88, 2833-40.
4. Norris, F.A. et al. (1995) *J Biol Chem* 270, 16128-33.
5. Norris, F.A. et al. (1997) *J Biol Chem* 272, 23859-64.
6. Nystuen, A. et al. (2001) *Neuron* 32, 203-12.
7. Vyas, P. et al. (2000) *Proc Natl Acad Sci USA* 97, 13696-701.
8. Ferron, M. and Vacher, J. (2006) *Gene* 376, 152-61.

## Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

## Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

## Applications Key

**WB:** Western Blotting

## Cross-Reactivity Key

**H:** human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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