Revision 1

Store at -20C

#14543

INPP4b (D9K1B) XP® Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P	H	Endogenous	110	Rabbit IgG	#O15327	8821

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Immunohistochemistry (Paraffin)	1:800

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

INPP4b (D9K1B) XP® Rabbit mAb recognizes endogenous levels of total INPP4b protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asn773 of human INPP4b protein.

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin)

Cross-Reactivity Key

H: Human

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