

PI4 Kinase Antibody

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene ID:
W, IP, IF-IC	H M R	Endogenous	230	Rabbit	#P42356	5297

Product Usage Information**Application**

Western Blotting
Immunoprecipitation
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:50
1:100

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

PI4 Kinase Antibody detects endogenous levels of total PI4 Kinase isoform 230.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the human sequence of PI4 Kinase. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Inositol phospholipids have an important role in intracellular signaling in response to hormones, growth factors and neurotransmitters. Phosphatidylinositol 4-kinase phosphorylates phosphatidylinositol (PI) to phosphatidylinositol-4-phosphate (PIP). In a second step, PIP is further phosphorylated to phosphatidylinositol-4,5-bisphosphate (PIP₂), and PIP₂ is subsequently hydrolyzed by phospholipase C, producing the two intracellular second messengers, inositol 1,4,5-triphosphate (IP₃) and diacylglycerol (DAG) (1). PI4K230, PI4K92 and PI4K55 are three PI4 kinase isoforms that have been characterized and classified according to their molecular weights of 230, 92 and 55 kD. Previously, PI4 kinases were classified into type II and III enzymes (2). All isoforms are located on distinct membranes and cellular compartments suggesting various tasks. PI4K230 is located at the endoplasmic reticulum and outer membranes of mitochondria, PI4K92 at the Golgi apparatus and endoplasmic reticulum, and PI4K55 at the plasma membrane and endosomes (3-5). PI4K230 is predominantly expressed in brain and moderately sensitive to wortmannin as well as specifically and irreversibly inhibited by cyclitol derivatives (3, 6).

Background References

1. Wong, K. and Cantley, L.C. (1994) *J. Biol. Chem.* 269, 28878-28884.
2. Heilmeyer Jr., L. M. et al. (2003) *IUBMB Life.* 55, 59-65.
3. Balla, A. et al. (2000) *Exp. Brain Res.* 134, 279-288.
4. Nakagawa, T. et al. (1996) *Biochem. J.* 320, 643-649.
5. Balla, A. et al. (2002) *J. Biol. Chem.* 277, 20041-20050.
6. Pelyvas, I. F. et al. (2001) *J. Med. Chem.* 44, 627-632.

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

W: Western Blotting **IP:** Immunoprecipitation **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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