

PI3 Kinase Class II α (D3Q5B) Rabbit mAb

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Applications: W, IP	Reactivity: H M R Mk	Sensitivity: Endogenous	MW (kDa): 180	Source/Isotype: Rabbit IgG	UniProt ID: #O00443	Entrez-Gene Id: 5286
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Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

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

Specificity/Sensitivity

PI3 Kinase Class II α (D3Q5B) Rabbit mAb recognizes endogenous levels of total PI3K class II α protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly717 of human PI3K class II α protein.

Background

Class II phosphatidylinositol 3-kinases (PI3K) contain a C-terminal C2 domain that is unique to the class II isoforms of the PI3K family. This C2 domain mediates protein and phospholipid binding activities (1,2). PI3K Class II α generates phosphatidylinositol 3-phosphate (PIP3) and phosphatidylinositol 3,4-bisphosphate (PI(3, 4)P2) from phosphatidylinositol and phosphatidylinositol 4-phosphate (3). PI3K Class II α is located in various intracellular locations such as the trans-Golgi network, endocytic compartments, clathrin-coated vesicles, and nuclear speckles (1,4,5). Research studies have indicated that PI3K Class II α regulates the assembly and distribution of clathrin, resulting in the modulation of clathrin-dependent trafficking and sorting within the trans Golgi network (5,6). PI3K Class II α also mediates translocation of the glucose transporter GLUT4 to the plasma membrane in response to insulin (7). PI3K Class II α has also been shown to regulate neurosecretory granule exocytosis (8) and vascular smooth muscle contraction (9). Unlike other PI3K family members, PI3K Class II α is less sensitive to the PI3K inhibitors wortmannin and LY294002 (3).

Background References

1. Didichenko, S.A. and Thelen, M. (2001) *J Biol Chem* 276, 48135-42.
2. Stahelin, R.V. et al. (2006) *J Biol Chem* 281, 39396-406.
3. Domin, J. et al. (1997) *Biochem J* 326 (Pt 1), 139-47.
4. Domin, J. et al. (2000) *J Biol Chem* 275, 11943-50.
5. Gaidarov, I. et al. (2001) *Mol Cell* 7, 443-9.
6. Gaidarov, I. et al. (2005) *J Biol Chem* 280, 40766-72.
7. Falasca, M. et al. (2007) *J Biol Chem* 282, 28226-36.
8. Wen, P.J. et al. (2008) *Mol Biol Cell* 19, 5593-603.
9. Yoshioka, K. et al. (2007) *Mol Pharmacol* 71, 912-20.

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

Cross-Reactivity Key

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

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