

Mouse Anti-PI(4)P Antibody

Z-P004

Support: echelon@echelon-inc.com

Description:

Mouse monoclonal antibody targeting PI(4)P

Applications:

ELISA - 0.5 µg/mL
Lipid-protein overlay – 1.0 µg/mL
FP – 400 µg/mL
ICC - 8 µg/mL²

Other in vitro and cellular applications are possible using this antibody but have not been verified by Echelon Biosciences.

Properties:

Form – liquid
Storage instructions – Store at 4 °C for up to 30 days. Aliquot and store at -20 °C if longer storage is necessary. Avoid repeated freeze/thaw cycles.
Storage buffer – PBS, pH 7.4
Concentration – see product label
Purity – affinity purified using Protein G agarose
Immunogen – synthetic PI(4)P
Clonality – monoclonal; clone PI4-2
Isotype – IgM

Specificity:

Anti-PI(4)P reacts primarily with the head group of the indicated phosphoinositide (of synthetic or natural origin), and demonstrates low cross-reactivity with other phosphoinositide or phospholipid depending on the assay format.

Background:

Phosphoinositides (PIPns) are minor components of cellular membranes but are integral signaling molecules for cellular communication. Phosphatidylinositol 4-phosphate (PI(4)P) is the biosynthetic precursor to PI(4,5)P₂ and has an important roles in regulating sphingomyelin and

glycosphingolipid metabolism and membrane trafficking at the exit of the Golgi complex.

Data: Immunofluorescence

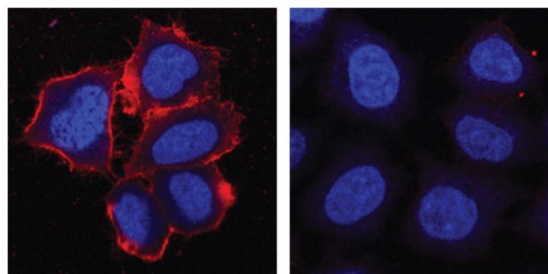


Image adapted with permission, Gerald Hammond.
Confocal images of anti-PI(4)P stained cells (left) or cells pre-incubated with PI(4)P prior to staining (right). DAPI counterstain.

References:

1. Cheong, F. Y., V. Sharma, et al. (2010). Spatial Regulation of Golgi Phosphatidylinositol-4-Phosphate is Required for Enzyme Localization and Glycosylation Fidelity. *Traffic* 11(9): 1180-1190.
2. Hammond GR, Schiavo G, Irvine RF. Immunocytochemical techniques reveal multiple, distinct cellular pools of PtdIns4P and PtdIns(4,5)P(2). *Biochem J.* 2009;422(1):23-35.
3. Blagoveshchenskaya, A., F. Y. Cheong, et al. (2008). Integration of Golgi trafficking and growth factor signaling by the lipid phosphatase SAC1. *J Cell Biol* 180(4): 803-12.
4. Weber, S. S., C. Ragaz, et al. (2006). Legionella pneumophila exploits PI(4)P to anchor secreted effector proteins to the replicative vacuole. *PLoS Pathog* 2(5): e46.

Related Products:

Products	Catalog Number
Assays and Reagents	
PI(4)P Mass ELISA	K-4000E
PI(4)P Beads	P-B004a
Lipids and Antibodies	
PI(4)P	P-4008, P-4016
Bodipy-FL, TMR PI(4)P	C-04F6a, C-04M6a