

Echelon Biosciences Inc.

Mouse Anti-PI(4,5)P₂ Antibody

Z-P045

Support: echelon@echelon-inc.com

Description:

Mouse monoclonal antibody targeting PI(4,5)P₂

Applications:

ELISA - 0.5 ug/mL
Lipid-protein overlay - 1.0 ug/mL
IF/ICC² - 10 ug/mL

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 - 1.0 mg/mL
Purity - affinity purified using Protein G agarose
Immunogen - synthetic PI(4,5)P₂ in liposome
Clonality - monoclonal; 2C11
Isotype - IgM

Specificity:

Anti-PI(4,5)P₂ reacts primarily with the head group of the indicated phosphoinositide, and demonstrates low cross-reactivity with other phosphoinositides or phospholipids depending on the assay format.

Background:

Phosphoinositides (PIPs) are minor components of cellular membranes but are integral signaling molecules for cellular communication. Phosphatidylinositol 4,5-bisphosphate (PIP₂) has been shown to play a central role in a variety of cellular functions.

Data: Immunofluorescence

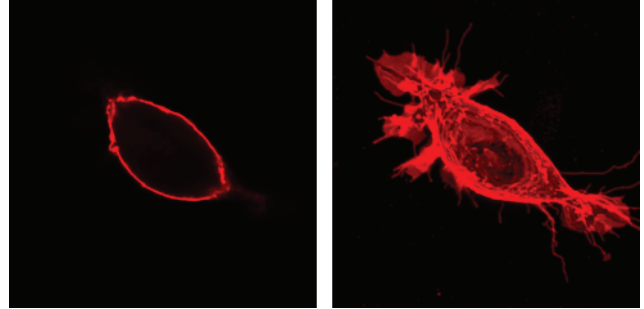


Image adapted with permission, Gerald Hammond.
Left: 2D confocal plane, Right: 3D confocal stack

References:

- Xu Q, Zhang Y, Wei Q, Huang Y, Hu J, Ling K. (2016) Phosphatidylinositol phosphate kinase PIPKI[gamma] and phosphatase INPP5E coordinate initiation of ciliogenesis. Nat Commun. 7.
- Dambournet D, Machicoane M, Chesneau L, Sachse M, Rocancourt M, El Marjou A, et al. (2011) Rab35 GTPase and OCRL phosphatase remodel lipids and F-actin for successful cytokinesis. Nat Cell Biol. 13(8):981.
- Hammond GR, Dove SK, Nicol A, Pinxteren JA, Zicha D, Schiavo G. (2006) Elimination of plasma membrane phosphatidylinositol (4,5)-bisphosphate is required for exocytosis from mast cells. J Cell Sci. 119(Pt 10):2084-94
- Thomas CL, Steele J, Prestwich GD, Schiavo G. Generation of phosphatidylinositol-specific antibodies and their characterization. Biochemical Society Transactions. 1999;27:648-51.

Related Products:

| Products | Catalog Number |
|---|----------------|
| Assays and Reagents | |
| PI(4,5)P ₂ Mass ELISA | K-4500 |
| PI(4,5)P ₂ PIP Beads | P-B045a |
| PI(4,5)P ₂ PolyPIPosomes | Y-P045 |
| Lipids and Antibodies | |
| PI(4,5)P ₂ | P-4508, P-4516 |
| Biotinylated Anti-PI(4,5)P ₂ | Z-B045 |

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