Technical Data Sheet

Purified Mouse Anti-PI3-Kinase p110α

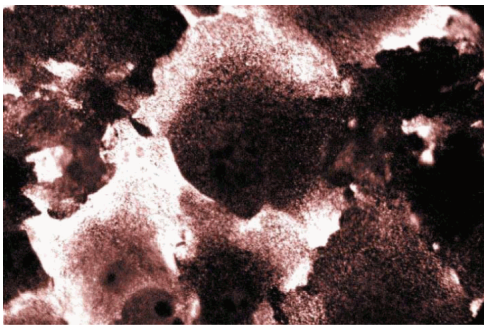
Product Information

Material Number:	**611398**
Size:	50 µg
Concentration:	250 µg/ml
Clone:	19/PI3-Kinase p110α
Immunogen:	Human PI3-Kinase p110α aa. 101-300
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Human Tested in Development: Rat
Target MW:	110 kDa
Storage Buffer:	Aqueous buffered solution containing BSA, glycerol, and ≤0.09% sodium azide.

Description

Phosphatidylinositol 3 (PI3) -kinase participates in insulin-stimulated glucose uptake, PDGF-induced membrane ruffling, and G-protein receptor signaling. It exists as a heterodimer of 85 kDa (p85) and 110 kDa (p110) subunits. The p85 subunit associates with and serves as a substrate for activated growth factor receptor tyrosine kinases. p85 regulates the p110 catalytic subunit by acting as the link between PI3-kinase and the ligand-activated receptor. Four isoforms of p110 have been identified (α, β, γ, and δ). The p110α isoform contains an N-terminal region involved in p85 binding and a C-terminal kinase domain. p85/p110α-type PI kinase phosphorylates the D-3 and D-4 position of the inositol ring of PI, thereby producing PtdIns(3)P, PtdIns(3,4)P[2], PtdIns(3,4,5)P[3], PtdIns(4)P, and PtdIns(4,5) P[2]. During induction of chemotaxis by the chemokine SDF-1α, PI3-kinase regulates adhesion and ERM protein redistribution in the lymphocyte plasma membrane. In addition, PI3-kinases activate other signaling molecules, such as p70 S6 kinase and Akt/protein kinase B. Thus, p85/p110α-type PI kinase is a ubiquitously expressed kinase that is involved in a variety of cell signaling cascades.

Western blot analysis of PI3-Kinase p110α on Jurkat lysate. *Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of anti-PI3-Kinase p110α.*



Immunofluorescent staining of NIH-3T3 cells.

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at -20° C.

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Application Notes

Application

Western blot	Routinely Tested
Immunofluorescence	Tested During Development

Suggested Companion Products

Catalog Number	Name	Size	Clone
611451	Jurkat Cell Lysate	500 µg	(none)
554002	HRP Goat Anti-Mouse Ig	1.0 ml	(none)
554001	FITC Goat Anti-Mouse Ig	0.5 mg	Polyclonal

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
4. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Funaki M, Katagiri H, Kanda A. p85/p110-type phosphatidylinositol kinase phosphorylates not only the D-3, but also the D-4 position of the inositol ring. *J Biol Chem.* 1999; 274(31):22019-22024.(Biology)

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Katagiri H, Asano T, Ishihara H. Overexpression of catalytic subunit p110alpha of phosphatidylinositol 3-kinase increases glucose transport activity with translocation of glucose transporters in 3T3-L1 adipocytes. *J Biol Chem.* 1996; 271(29):16987-16990.(Biology)

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Volinia S, Hiles I, Ormondroyd E. Molecular cloning, cDNA sequence, and chromosomal localization of the human phosphatidylinositol 3-kinase p110 alpha (PIK3CA) gene. *Genomics.* 1994; 24(3):472-477.(Biology)