

## Technical Data Sheet

**Purified Mouse Anti-PI3-Kinase p110 $\alpha$** **Product Information**

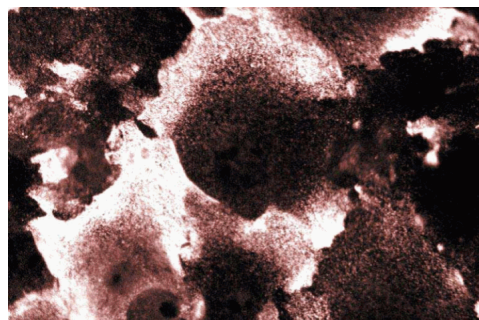
<b>Material Number:</b>	611399
<b>Size:</b>	150 $\mu$ g
<b>Concentration:</b>	250 $\mu$ g/ml
<b>Clone:</b>	19/PI3-Kinase p110 $\alpha$
<b>Immunogen:</b>	Human PI3-Kinase p110 $\alpha$ aa. 101-300
<b>Isotype:</b>	Mouse IgG1
<b>Reactivity:</b>	QC Testing: Human Tested in Development: Rat
<b>Target MW:</b>	110 kDa
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA, glycerol, and $\leq 0.09\%$ 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 ( $\alpha$ ,  $\beta$ ,  $\gamma$ , and  $\delta$ ). The p110 $\alpha$  isoform contains an N-terminal region involved in p85 binding and a C-terminal kinase domain. p85/p110 $\alpha$ -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-1 $\alpha$ , 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/p110 $\alpha$ -type PI kinase is a ubiquitously expressed kinase that is involved in a variety of cell signaling cascades.



**Western blot analysis of PI3-Kinase p110 $\alpha$  on Jurkat lysate.** Lane 1: 1:250, lane 2: 1:500, lane 3: 1:1000 dilution of anti-PI3-Kinase p110 $\alpha$ .



**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/pharmlingen/protocols](http://www.bdbiosciences.com/pharmlingen/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)