Revision 4

Store at -20C

#17366

Phospho-PI3 Kinase p85 (Tyr458)/p55 (Tyr199) (E3U1H) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, FC-FP	M	Endogenous	60, 85	Rabbit IgG	#P27986, #Q92569, #O00459	5295, 8503, 5296

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Flow Cytometry (Fixed/Permeabilized)	1:50 - 1:200

Storage

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

For a carrier free (BSA and azide free) version of this product see product #48309.

Specificity/Sensitivity

Phospho-PI3 Kinase p85 (Tyr458)/p55 (Tyr199) (E3U1H) Rabbit mAb recognizes endogenous levels of p85/p55 protein only when phosphorylated at Tyr467/Tyr199 (Tyr458/Tyr199 in mouse).

Species predicted to react based on 100% sequence homology

Human

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr467 (equivalent to Tyr458 in mouse) of human p85α protein.

Background

Phosphoinositide 3-kinase (PI3K) catalyzes the production of phosphatidylinositol-3,4,5-triphosphate by phosphorylating phosphatidylinositol (PI), phosphatidylinositol-4-phosphate (PIP), and phosphatidylinositol-4,5-bisphosphate (PIP_2). Growth factors and hormones trigger this phosphorylation event, which in turn coordinates cell growth, cell cycle entry, cell migration, and cell survival (1). PTEN reverses this process, and research studies have shown that the PI3K signaling pathway is constitutively activated in human cancers that have loss of function of PTEN (2). PI3Ks are composed of a catalytic subunit (p110) and a regulatory subunit. Various isoforms of the catalytic subunit (p110α, p110β, p110γ, and p110δ) have been isolated, and the regulatory subunits that associate with p110α, p110β, and p110δ are p85α and p85β (3). In contrast, p110γ associates with a p101 regulatory subunit that is unrelated to p85. Furthermore, p110γ is activated by βγ subunits of heterotrimeric G proteins (4).
Protein extracts from 3T3-Src cells were profiled by PhosphoScan® to identify phosphotyrosine peptides. Tyr458 of PI3K p85 and Tyr199 of PI3K p55 were among 180 phosphopeptides and 185 phosphotyrosine sites identified (5).

Background References

1. Cantley, L.C. (2002) *Science* 296, 1655-7.
2. Simpson, L. and Parsons, R. (2001) *Exp Cell Res* 264, 29-41.
3. Neri, L.M. et al. (2002) *Biochim Biophys Acta* 1584, 73-80.
4. Stoyanov, B. et al. (1995) *Science* 269, 690-3.
5. Rush, J. et al. (2005) *Nat Biotechnol* 23, 94-101.

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 **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

M: Mouse

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