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Phospho-PI3 Kinase p85 (Tyr458)/p55 (Tyr199) Antibody

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W, IP	Reactivity: M	Sensitivity: Endogenous	MW (kDa): 60 and 85	Source/Isotype: Rabbit	UniProt ID: #P27986, #Q92569, #O00459	Entrez-Gene Id: 5295, 8503, 5296
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Product Usage Information	Application Western Blotting Immunoprecipitation	Dilution 1:1000 1:50
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.	
Specificity/Sensitivity	Phospho-PI3 Kinase p85 (Tyr458)/p55 (Tyr199) Antibody detects endogenous levels of p85/p55 only when phosphorylated at Tyr458/Tyr199.	
Species predicted to react based on 100% sequence homology	Human	
Source / Purification	Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Tyr458 of mouse p85. Antibodies are purified by protein A and peptide affinity chromatography.	
Background	<p>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 (PIP₂). 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 $\beta\gamma$ subunits of heterotrimeric G proteins (4).</p> <p>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).</p>	
Background References	<ol style="list-style-type: none"> 1. Cantley, L.C. (2002) <i>Science</i> 296, 1655-7. 2. Simpson, L. and Parsons, R. (2001) <i>Exp Cell Res</i> 264, 29-41. 3. Neri, L.M. et al. (2002) <i>Biochim Biophys Acta</i> 1584, 73-80. 4. Stoyanov, B. et al. (1995) <i>Science</i> 269, 690-3. 5. Rush, J. et al. (2005) <i>Nat. Biotechnol.</i> 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 BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.
Applications Key	W: Western Blotting IP: Immunoprecipitation
Cross-Reactivity Key	M: Mouse
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