For Research Use Only. Not For Use In Diagnostic Procedures.

**Product Usage Information**

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<th>Dilution</th>
<th>Source</th>
<th>UniProt ID</th>
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<td>Western Blotting</td>
<td>1:1000</td>
<td>Rabbit</td>
<td>Q92569, P27986, O00459</td>
<td>8503, 5295, 5296</td>
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<td>Immunoprecipitation</td>
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**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 Reactivity:**

Mouse

**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**

Phosphoinositide 3-kinase (PI3K) catalyzes the production of phosphatidylinositol-3,4,5-trisphosphate 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. The catalytic subunits (p110α, p110β, and p110γ) are activated by specific stimuli, 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).


**Applications Key**

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**Cross-Reactivity Key**

- **H**: human
- **M**: mouse
- **R**: rat
- **Hm**: hamster
- **Mk**: monkey
- **Mi**: mink
- **C**: chicken
- **D**: D. melanogaster
- **X**: Xenopus
- **Z**: zebrafish
- **B**: bovine
- **Dp**: dog
- **Pg**: pig
- **Sc**: S. cerevisiae
- **Ce**: C. elegans
- **Hr**: horse
- **All**: all species expected

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