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

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

Applications | Species Cross-Reactivity* | Molecular Wt. | Source | 
-------------|--------------------------|--------------|--------|
W, IP        | M                        | 60 kDa and 85 kDa | Rabbit ** |
Endogenous   |                          |               |        |

**Species cross-reactivity is determined by western blot. ** Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:
Western blotting 1:1000
Immunoprecipitation 1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

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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 (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 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 (p110\(^a\), p110\(^b\), p110\(^d\) and p110\(^g\)) have been isolated, and the regulatory subunits that associate with p110\(^a\), p110\(^b\) and p110\(^d\) are p85\(^a\) and p85\(^b\)(3).

In contrast, p110\(^g\) associates with a p101 regulatory subunit that is unrelated to p85. Furthermore, p110\(^g\) is activated by bg subunits of heterotrimeric G proteins (4).

Protein extracts from 3T3-Src cells were profiled by PhosphoScan\(^\text{®}\) to identify phosphotyrosine peptides. Tyr458 of PI3K p85 and Tyr199 of PI3K p55 were among 180 phosphopeptides and 185 phosphotyrosine sites identified (5).

Specificity/Sensitivity:
Phospho-PI3 Kinase p85 (Tyr458)/p55 (Tyr199) Antibody detects endogenous levels of p85/p55 only when phosphorylated at Tyr458/Tyr199.

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 References:

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

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.

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Entrez-Gene ID #8503
Swiss-Prot Acc. #Q92569

Molecular Wt. | NIH/3T3-Src | C2C12 |
-------------|-----------|-------|
80           | 80        | 60    |
60           | 60        | 50    |
40           | 40        | 30    |
30           | 30        | 20    |
20           | 20        | 10    |
10           | 10        | 8     |

Western blot analysis of extracts from NIH/3T3-Src cells, untreated or treated with λ phosphatase and from C2C12 cells, untreated or treated with H\(_2\)O\(_2\), using Phospho-PI3 Kinase p85 (Tyr458)/p55 (Tyr199) Antibody.