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Store at -20C
#4255

PI3 Kinase p110α Antibody

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

Applications: W, W-S, IP	Reactivity: H M R	Sensitivity: Endogenous	MW (kDa): 110	Source/Isotype: Rabbit	UniProt ID: #P42336	Entrez-Gene Id: 5290
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Product Usage Information

Application

Western Blotting
Simple Western™
Immunoprecipitation

Dilution

1:1000
1:50 - 1:250
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

PI3 Kinase p110α Antibody detects endogenous levels of total PI3K p110α protein.

Species predicted to react based on 100% sequence homology

Bovine

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to the human sequence of PI3K p110α. Antibodies are purified by protein A and peptide affinity chromatography.

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 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).

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.

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 **W-S:** Simple Western™ **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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