

#3011 Store at -20C

PI3 Kinase p110 β (C33D4) Rabbit mAb



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TECHNOLOGY®

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

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	110	Rabbit IgG	#P42338	5291

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:25

Storage

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

Specificity / Sensitivity

PI3 Kinase p110 β (C33D4) Rabbit mAb detects endogenous levels of total PI3K p110 β protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide of human PI3K p110 β .

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 (p110 α , p110 β , p110 γ , and p110 δ) have been isolated, and the regulatory subunits that associate with p110 α , p110 β , and p110 δ are p85 α and p85 β (3). In contrast, p110 γ associates with a p101 regulatory subunit that is unrelated to p85. Furthermore, p110 γ is activated by $\beta\gamma$ subunits of heterotrimeric G proteins (4). p110 β is widely distributed in tissue and plays an essential role in early embryonic development (5). p110 β stimulates cell proliferation, invasive cell growth, and expression is increased in a number of tumors including glioblastomas (6-8).

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. Okkenhaug, K. and Vanhaesebroeck, B. (2003) *Nat Rev Immunol* 3, 317-30.
6. Czauderna, F. et al. (2003) *Nucleic Acids Res* 31, 670-82.
7. Bénistant, C. et al. (2000) *Oncogene* 19, 5083-90.
8. Knobbe, C.B. and Reifemberger, G. (2003) *Brain Pathol* 13, 507-18.

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

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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