Revision 1

Store at -20C

#3821

Phospho-(Tyr) p85 PI3K Binding Motif Antibody

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

Sensitivity:	Source:
Endogenous	Rabbit

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-(Tyr) p85 PI3K Binding Motif Antibody preferentially recognizes peptides and proteins containing phospho-tyrosine at the consensus YXXM motif. Some cross-reactivity is observed with peptides that contain phospho-tyrosine followed by methionine. The antibody does not cross-react with the corresponding nonphosphorylated sequences or with other phospho-tyrosine-containing motifs. By ELISA, the antibody recognizes a wide range of tyrosine-phosphorylated peptides with the YXXM sequence. It also recognizes proteins with phosphorylated p85 binding motifs by Western blot analysis. (U.S. Patent No's.: 6,441,140; 6,982,318; 7,259,022; 7,344,714; U.S.S.N. 11,484,485; and all foreign equivalents.)

Source / Purification

Polyclonal antibodies are produced by immunizing animals with synthetic phospho-(Tyr) p85 binding motif peptides. Antibodies are sequentially purified by protein A and peptide affinity chromatography.

Background

Phosphoinositide 3 kinase (PI3K) is a lipid kinase that catalyzes the phosphorylation of PI(4,5)P2 at the D3 position of the inositol ring. The resulting product, PI(3,4,5)P3, can be recognized by PH domain-containing signaling molecules, including various kinases and their regulators, and activates the corresponding cell signaling pathways, eventually leading to cell growth, survival and cellular movement (1). PI3K is a heterodimer with a p85 regulatory subunit and p110 catalytic subunit. The p85 subunit has two SH2 domains that bind to phospho-tyrosine with the consensus motif (Y*XXM), where X denotes any amino acid and Y* is phosphorylated tyrosine. This motif exists in many of the receptor tyrosine kinases and their substrates, including EGFR, FGFR, IRS-1, BCAP and GAB1 (2,3). The docking of PI3K in the vicinity of the plasma membrane through p85 recognition of the receptor phosphorylated YXXM activates the PI3K pathway. Phospho-(Tyr) p85 PI3K Binding Motif Antibody specifically recognizes PI3K binding targets at their phosphorylated YXXM motif, providing a powerful new tool for PI3K binding protein discovery and characterization as well as HTS drug screening for potential regulators.

Background References

1. Cantley, L.C. (2002) *Science* 296, 1655-7.
2. Songyang, Z. et al. (1994) *Mol Cell Biol* 14, 2777-85.
3. Songyang, Z. et al. (1993) *Cell* 72, 767-78.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

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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