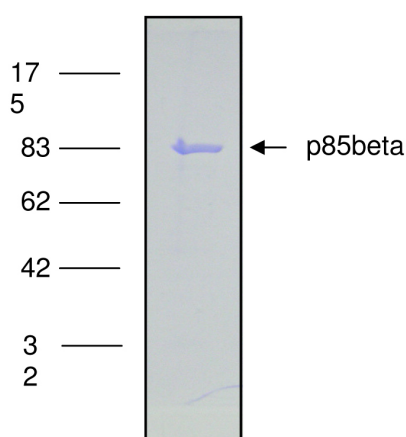


p85 β

Phosphoinositide 3-Kinase regulatory subunit
bovine, recombinant, Sf9 cells

Cat. No.	Amount
PR-942	10 μ g



For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form

Liquid. Supplied in 50 mM Tris-HCl pH 7.5, 50 mM NaCl and 50% glycerol.

Molecular Weight

p85 β : 83.5 kDa

Purity

>90% by SDS-PAGE

Description

p85 β acts as regulatory subunit of the class IA PI3-kinase isoforms α , β , and δ . It contains two SH2 domains that bind to tyrosine-phosphorylated growth factor receptors or substrate adaptor proteins.

It also contains a BH (breakpoint cluster region homology) domain that shows GAP activity towards the small GTPases Rab4, Rab5, Cdc42, Rac1 and to a lesser extend towards Rab6 and Rab11.

General

Phosphoinositide 3-kinases (PI3Ks) phosphorylate phosphatidylinositols (PIs) at their 3' OH position generating lipid second messengers and thereby regulate numerous biological processes including cell growth, differentiation, survival, proliferation, migration and metabolism. On the basis of structural similarities and substrate specificity, the PI3K family can be subdivided into three classes termed I, II, and III.

All human class I members are heterodimers consisting of a catalytic subunit (MW approx. 110 kDa) and a non-catalytic subunit (MW 50, 55, 85, or 101 kDa) and are known to phosphorylate phosphatidylinositol (PI), phosphatidylinositol-4-mono-phosphate (PIP) and phosphatidylinositol-4,5-bisphosphate (PIP2) *in vitro*. The class I members can be further subdivided into class IA and IB PI3Ks. Class IA exists in three isoforms (p110 α , p110 β and p110 δ) whereas the only class IB member is termed p110 γ .

Class IA PI3Ks are activated by adaptor proteins such as Ras or BCAP, or tyrosine-kinase-associated receptors including antigen, co-stimulatory and cytokine receptors (e.g. CD19, CD28, Insulin receptor, EGFR, and PDGFR). p110 γ is activated by G-protein-coupled receptors (GPCRs). Effectors of class I PI3Ks are pleckstrin-homology domain proteins such as Akt/PKB, BTK, TEC, ITK, BAM32, and small GTPases (e.g. Cdc42, Rac, or Ras).

The action of PI3Ks is regulated by the phosphatidylinositol-3,4,5-trisphosphate phosphatases SHIP and PTEN.

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