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Recombinant Bovine PI3K p110α/p85α with G-terminal His-tag Inactive Mutant

Catalog No.	CRP061-5	**Quantity:**	5 µg
	CRP061		10 µg

Description:

The PI3KαR916P protein is a catalytically inactive mutant of PI3Kα in which Arg916 was mutated to Pro.
This recombinant catalytically inactive protein can be used as a negative control in any kind of PI3Kα kinase activity studies.
Recombinant full length PI3KαRP mutant carries a N terminal GST-Tag and was purified by affinity chromatography.
The GST-Tag facilitates the protein's application in typical GST pull-down assays.
p85α has a MW =83.5 kDa. p110α has a MW = 124.3 kDa (without Tag).
Note: Human p110alpha differs from the bovine enzyme in only 2 positions, K532R and S535C. Both lie in the PIK domain of the enzyme (aa 525-696) and are not expected to interfere with binding of p85 (aa 31-108) or Ras (aa 173-292) or with catalytic function (aa 699-1064).
Background: 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 (p110α, p110ß and p110δ whereas the only class IB member is termed p110γ.
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). p110γ 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 phosphatidyl-inositol-3,4,5-trisphosphate phosphatases SHIP and PTEN.

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Source: Sf9 insect cells

Formulation: Liquid. Supplied in 10 mM HEPES pH 7.5 + 100 mM NaCl + 2.5 mM $MgCl_2$ + 50% glycerol.

Purity: ≥ 95% by SDS-PAGE.

Storage & Stability: Store at -20°C. **Avoid repeated freeze-thaw cycles**.

NOT FOR HUMAN USE. FOR RESEARCH ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

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