

## Product Information

**PI3K (p110- $\alpha$ /p85- $\alpha$ ), active, His-tagged mouse and human, PRECISIO® Kinase recombinant, expressed in Sf9 cells**

Catalog Number **SRP5280**  
Storage Temperature  $-70^{\circ}\text{C}$

### Synonyms:

p110- $\alpha$ : p110a, PIK3CA, PI3K, p110-alpha  
p85- $\alpha$ : p85a, PIK3R1, GRB1, p85-alpha

### Product Description

The PI3K contains a 110 kDa catalytic subunit and a 85 kDa regulatory subunit. A number of isoforms of the 110 kDa catalytic subunit and the 85 kDa regulatory subunit exist in cells. The p110- $\alpha$  catalytic subunit (PIK3CA) is frequently mutated or amplified in a variety of cancers including ovarian and colon.<sup>1</sup> The *PIK3CA* gene copy number is increased in over 30% of ovarian cancers and this leads to increased PI3-kinase activity. Furthermore, the activity of p110- $\alpha$  is essential for vascular development and inactivation of p110- $\alpha$  leads to severe defects in angiogenic sprouting and vascular remodeling.<sup>2</sup>

Recombinant full-length mouse p110- $\alpha$  and human p85- $\alpha$  were co-expressed by baculovirus in Sf9 insect cells using an N-terminal His-tag on both proteins. The p110- $\alpha$  gene accession number is NM\_008839; p85- $\alpha$  is NM\_181523. It is supplied in 50 mM sodium phosphate, pH 7.0, 300 mM NaCl, 150 mM imidazole, 0.1 mM PMSF, 0.25 mM DTT, and 25% glycerol.

### Molecular mass:

p110- $\alpha$  ~111 kDa  
p85- $\alpha$  ~86 kDa

### Precautions and Disclaimer

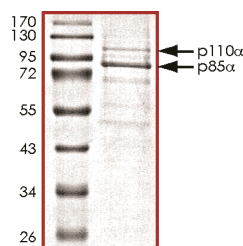
This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

### Storage/Stability

The product ships on dry ice and storage at  $-70^{\circ}\text{C}$  is recommended. After opening, aliquot into smaller quantities and store at  $-70^{\circ}\text{C}$ . Avoid repeated handling and multiple freeze/thaw cycles.

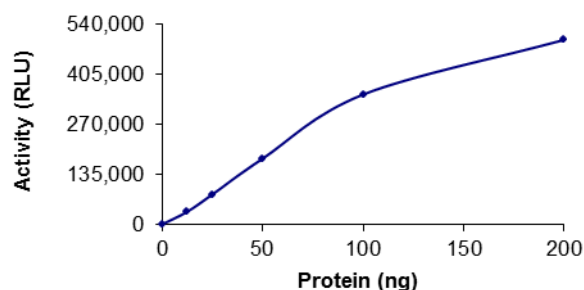
**Figure 1.**

SDS-PAGE Gel of Typical Lot:  
 $\geq 70\%$  (SDS-PAGE, densitometry)



**Figure 2.**

Specific Activity of Typical Lot:  
64–97 nmole/min/mg



Kinase activity was determined with a luminescent assay procedure.

### References

- Samuels, Y. et al., High frequency of mutations of the *PIK3CA* gene in human cancers. *Science*, **304**, 554 (2004).
- Graupera, M. et al., Angiogenesis selectively requires the p110-alpha isoform of PI3K to control endothelial cell migration. *Nature*, **453**, 662-666 (2008).

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