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Technical Data Sheet

For research use only

Not intended or approved for
diagnostic or therapeutic use.

Product Name:	PI3K (p110α/p85α), Active Full-length recombinant protein expressed in Sf9 cells
Catalog Number:	P27-18H
Size:	10 μ g
Concentration:	0.1 mg/mL
Description:	Recombinant full-length mouse p110 α and human p85 α co-expressed by baculovirus in Sf9 insect cells using an N-terminal His tag on both proteins. The gene accession number is NM_008839 for p110 α , and NM_181523 for p85 α .
Gene Aliases:	p110 α : PIK3CA, PI3K, p110-alpha p85 α : PIK3R1, GRB1, p85-alpha
Formulation:	50 mM sodium phosphate, pH 7.0, 300 mM NaCl, 150 mM imidazole, 0.1 mM PMSF, 2 mM DTT, and 25% glycerol.
Specificity:	Convert PI(4,5)P ₂ to PI(3,4,5)P ₃ ; convert PI to PI(3)P, and PI(4)P to PI(3,4)P ₂ <i>in vitro</i> .
Assay Condition:	50 mM Hepes, pH 7.4, 50 mM NaCl, 5 mM MgCl ₂ , 0.05% CHAPS, 5 mM DTT, 25 μ M ATP, containing 5 μ M PI(4,5)P ₂ substrate and 0.05 – 0.5 ng/ μ L PI3K α (optimize by enzyme titration as needed). Perform reactions at room temperature for 30 - 90 min.
Suggested Use:	PI3K activity assay and PI3K α inhibitor screening.
Storage:	Store product at -70 °C or below. Enzyme is stable for 6 months from date of shipment. For best result, aliquot enzyme into small quantities after centrifugation, flash freeze aliquots, and store at recommended temperature. Avoid repeated handling and multiple freeze/thaw cycles.
Scientific Background:	The PI3K comprises of 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 α catalytic subunit (PIK3CA) is frequently mutated or amplified in a variety of cancers including ovarian and colon ¹ . 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 α is essential for vascular development and inactivation of p110 α leads to severe defects in angiogenic sprouting and vascular remodeling ² .
References:	1. Samuels, Y. et al: High frequency of mutations of the PIK3CA gene in human cancers. <i>Science</i> 304: 554 only, 2004. 2. Graupera, M. et al: Angiogenesis selectively requires the p110-alpha isoform of PI3K to control endothelial cell migration. <i>Nature</i> 453: 662-666, 2008.
Related Products:	PI3K Activity Assay kits: K-1000 and K-1000S (ELISA), K-1100 (FP), K-1300 (AlphaScreen™), and K-2700 (TR-FRET). PI(4,5)P ₂ substrates: P-4508, C-45B6, C-45F6, C-45M6, H-45BT, H-45FL, H-45TR, H-45TM, and P-4516