

PI3K Lipid Substrate Mix 2 PI-4,5-P₂, PE, PS, PC, and SM based on PI-4,5-P₂

Cat. No.	Amount
LI-012	100 µg

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

Form
Lyophilized.

Solubility
Soluble in chloroform, yields a suspension in aqueous solution.

Composition
4.92% L- α -Phosphatidylinositol-4,5-bisphosphate (PI-4,5-P₂)
36.07% L- α -Phosphatidylethanolamine (PE)
39.34% L- α -Phosphatidyl-L-serine (PS)
16.39% L- α -Lysophosphatidylcholine (PC)
3.28% Sphingomyelin (SM).

Application
Dissolve the mix in 200 µl Chloroform and take an aliquot of 3 µl per reaction. Evaporate the chloroform (for fast evaporation use a stream of nitrogen) and resuspend in 30 µl kinase buffer. Sonicate for 1 h in a water bath. The total kinase assay reaction volume should be 50 µl.

Purity
≥ 98%

Description

The PI3K Lipid Substrate Mix 2 is recommended for PI3K kinase activity assays (Maier *et al.*, 1999; Stephens *et al.* 1993).

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.

Selected References:

- Maier *et al.* (1999) Roles of Non-catalytic Subunits in G β -induced Activation of Class I Phosphoinositide 3-Kinase Isoforms β and γ . *J. Biol. Chem.* **274**:29311.
- Stephens *et al.* (1993) Synthesis of phosphatidylinositol 3,4,5-trisphosphate in permeabilized neutrophils regulated by receptors and G-proteins. *J. Biol. Chem.* **268**:17162.
- Vanhaesebroeck *et al.* (2001) Synthesis and function of 3-phosphorylated inositol lipids. *Ann. Rev. Biochem.* **70**:535.
- Balla (2001) Pharmacology of phosphoinositides, regulators of multiple cellular functions. *Curr. Pharm. Des.* **7**:475.
- Wymann (2003) Phosphoinositide 3-kinase signalling – which way to target? *Trend Pharmacol. Sci.* **24**:323.
- Foukas *et al.* (2002) Direct effects of caffeine and theophylline on p110 delta and other phosphoinositide 3-kinases. Differential effects on lipid kinase and protein kinase activities. *J. Biol. Chem.* **277**:37124.