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Technical Data Sheet

For research use only

Not intended or approved for diagnostic or therapeutic use.

Product Number: P-9045
Product Name: PI(4,5)P₂ Shuttle PIP™ Kit

Kit Contents:

Phosphoinositides

<u>Catalog #</u>	<u>Description</u>	<u>Molecular Weight</u>	<u>Quantity</u>
P-4516	PtdIns(4,5)P ₂ di-C ₁₆	1,080.9	100 µg
C-45F6a	BODIPY® FL-PtdIns(4,5)P ₂ *	1,282.1	50 µg

Carriers

P-9C1	Neomycin Sulfate	909	50 nmoles
P-9C1R	Neomycin-TMR**	1,326	10 nmoles
P-9C2	Histone H1	~26,230	50 nmoles
P-9C2R	Histone H1-TMR**	~26,730	10 nmoles
P-9C3	Carrier 3	1,551	50 nmoles

Storage and Handling: Certain kit components are moisture and light sensitive. Store unopened kit for up to one year frozen at -20 °C and protected from moisture and light. Reconstitute phosphoinositides and carriers in aqueous buffers or media for use. Reconstituted phosphoinositides and carriers should not be stored at 4 °C for longer than 2-3 days. Samples may be flash frozen and stored at -20 °C for up to three months. Avoid multiple freeze-thaw cycles.

Note: Vortex mixing, brief bath sonication and addition of small amounts of methanol, ethanol, or DMSO may facilitate complete dissolution of phosphoinositides. *We do not recommend storing carriers and PIPs together as complexes.* On first use, we recommend subdividing carriers into convenient aliquots and storing at -20 °C until the day of use. Working stocks can be stored at 4 °C for 2-3 days.

- Selected References:**
1. Ozaki, S., DeWald, D. B., Shope, J. C., Chen, J., Prestwich, G. D. (2000) Intracellular delivery of phosphoinositides and inositol phosphates using polyamine carriers. *Proc Natl Acad Sci U S A* **97**, 11286-11291.
 2. Weiner, O.D., Neilsen, P.O., Prestwich, G.D., Kirschner, M.W., Cantley, L.C. and Bourne, H.R. (2002). A PtdInsP₃- and Rho GTPase-mediated positive feedback loop regulates neutrophil polarity. *Nat Cell Biol* **4**, 509-512.
 3. Larsen, M., Hoffman, M.P., Sakai, T., Neibaur, J.C., Mitchell, J.M., and Yamada, K.M. (2003) Role of PI 3-kinase and PIP3 in submandibular gland branching morphogenesis. *Dev Biol*, **255**, 178-91.
 4. Wang, Y. J., Li, W. H., Wang, J., Xu, K., Dong, P., Luo, X., and Yin, H. L. (2004) Critical role of PIP5K α 87 in InsP₃-mediated Ca(2+) signaling. *J Cell Biol*, **167**, 1005.
 5. Kanda, H., Tamori, Y., Shinoda, H., Yoshikawa, M., Sakaue, M., Udagawa, J., Otani, H., Tashiro, F., Miyazaki, J., and Kasuga, M. (2005) Adipocytes from Munc18c-null mice show increased sensitivity to insulin-stimulated GLUT4 externalization. *J Clin Invest*, **115**, 291-301.
 6. Martin-Belmonte F, Gassama A, Datta A, Yu W, Rescher U, Gerke, V., Mostov, K. (2007) PTEN-Mediated Apical Segregation of Phosphoinositides Controls Epithelial Morphogenesis through Cdc42. *Cell* **128**, 383-397.
 7. Leshem Y, Seri L, Levine A., (2007) Induction of phosphatidylinositol 3-kinase-mediated endocytosis by salt stress leads to intracellular production of reactive oxygen species and salt tolerance. *Plant J* **51**,185-197.

*BODIPY® FL has maximal excitation at 505 nm and maximal emission at 513 nm

**TMR = Tetramethylrhodamine (maximal excitation at 555 nm, maximal emission 580 nm)