TECHNICAL DATA SHEET

Catalog Number	810800	Physical state	Powder
Purity	> 95%	Transition temp.	No data
CAS	474943-13-0	СМС	No data
Synonyms	08:0 DGPP; short chain DGPP; diacylglycerol pyrophosphate; DiC8 DGPP	РКА	No data
Molec. Formula	$C_{19}H_{44}N_2O_{11}P_2$	TLC mobile phase	C:Acetone:M:Acetic Acid:W*, 50:15:13:12:4, v/v; TLC plate sprayed with 1% Potassium Oxalate
MW	538.507	Exact Mass	538.242
Percent composition	C 42.38% H 8.24% N 5.20% O 32.68% P 11.50%		
Stability	Store in <-20°C freezer for up to six months (powder only). Stable in solution for 1-2 days at <-20°C as DiC8 DGPP immediately starts to break down into phosphatidic acid.		
Solubility	Soluble in chloroform at 25 mg/mL; disperse in H_2O for use in biological assays		
Web link	810800		

08:0 DGPP Dioctonylglycerol Pyrophosphate (ammonium salt)

*chloroform:acetone:methanol:acetic acid:water



Description: DGPP is produced by the phosphorylation of phosphatidic acid (van Schooten et al, 2006) and has been found in plants (Munnik et al, 1996), *Saccharomyces cerevisiae* (Carman, 1997), and *Escherichia coli* (Carman, 1997). 8:0 DGPP has been shown to be an LPA₁/₃ receptor antagonist (Lichte et al, 2008). LPA and S1P are lysophospholipids which play a role in a broad spectrum of cellular functions, including signal transduction, membrane trafficking and cell growth, migration and survival (Sigal et al, 2005). Defining specific LPA and S1P receptor agonists and antagonists has demonstrated lysophospholipids can be involved in such diverse pathophysiological states such as cancer, cardiovascular disorders, respiratory disorders, psychiatric disorders, reproductive disorders, neuropathic pain and obesity (Gardell et al, 2006). Therefore lysophospholipid receptors have emerged as drug targets for therapeutic intervention (Gardell et al, 2006).

Product use: DiC8 DGPP is added to a test tube as a chloroform solution and the solvent is removed (for more information on how to remove the solvent, see technical information on Avanti's website). Add water or buffer to the dry lipid residue followed by sonication. Add this solution directly to cells. DiC8 DGPP is directly taken up by mammalian and plant cells and yeast.

References:

• Lichte et al (2008) Lysophospholipid receptor-mediated calcium signaling in human keratinocytes. J Invest Dermatol. 2008 Jun; 128(6): 1487-98.

• van Schooten et al (2006) Signalling diacylglycerol pyrophosphate, a new phosphatidic acid metabolite. Biochim Biophys Acta 1761(2):151-9

• Gardell SE, Dubin AE, Chun J (2006) Emerging medicinal roles for lysophospholipid signaling. Trends Molec Med 12(2): 65-75

• Sigal YJ, McDermott MI, Morris AJ (2005) Integral membrane lipid phosphatases/phosphotransferases: common structure and diverse functions. Biochem J 387: 281–293

• Carman GM (1997) Phosphatidate phosphatases and diacylglycerol pyrophosphate phosphatases in Saccharomyces cerevisiae and Escherichia coli. Biochim Biophys Acta 1348, 45-55

• Munnik T et al (1996) Identification of diacylglycerol pyrophosphate as a novel metabolic product of phosphatidic acid during G-protein activation in plants. J Biol Chem 271, 15708-15

Related Products: DGPP

MSDS: see www.avantilipids.com for product number 810800

Avanti Polar Lipids, Inc., 700 Industrial Park Drive, Alabaster, AL 35007-9105, U.S.A. Phone • (800) 227-0651 • (205) 663-2494 • Fax (800) 229-1004 • (205) 663-0756 Email • orders@avantilipids.com • Technical Questions: technical@avantilipids.com • Inguiries: info@avantilipids.com • Analytical: analytical@avantilipids.com

