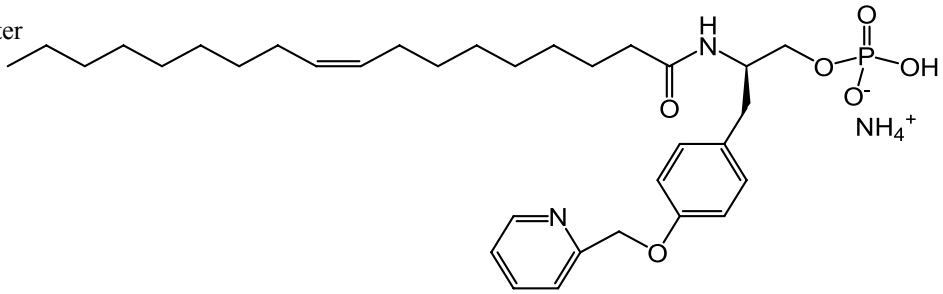
Technical Data Sheet

(R)-Phosphoric acid mono-{2-octadec-9-enoylamino-3-[4-(pyridine-2-ylmethoxy)-phenyl]-propyl} ester (ammonium salt) (VPC 32179(R))

Catalog Number	857350	**Physical state**	Powder
Purity	> 99%	**Transition temp.**	No data
CAS	799268-76-1	**CMC**	No data
Synonyms	LPA_3 receptor antagonist; VPC 32179	**pK_a**	No data
Molec. Formula	$C_{33}H_{54}N_3O_6P$	**TLC mobile phase**	C:M:W*, 65:35:8, v/v
MW	619.772	**Exact Mass**	619.375
Percent composition	C 63.95% H 8.78% N 6.78% O 15.49% P 5.00%		
Stability	Store in <-20°C freezer for 6 months. Aliquot 1 mM suspensions and store frozen.		
Solubility	Suspend VPC 32179 in 3% BSA (fatty acid free Bovine Serum Albumin) in water at a lipid concentration of 1 mM.		
Web link	857350		

*chloroform:methanol:water



Description:

Lysophospholipids 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). The actions of lysophospholipids, including lysophosphatidic acid (LPA) and sphingosine 1-phosphate (S1P), have been studied through specific interactions with ten G-protein-coupled receptors (LPA_{1-5} and $S1P_{1-5}$) (Skoura and Hla, 2009) and with the nuclear receptor PPAR-γ (peroxisome-proliferator-activated receptor-γ) (Prestwich *et al*, 2005). By defining specific receptor agonists and antagonists, lysophospholipids have been implicated in such diverse pathophysiological states such as cancer, autoimmune diseases, atherosclerosis (Gardell *et al*, 2006; Prestwich *et al*, 2005), immunodeficiency, ischemia–reperfusion injury (Prestwich *et al*, 2005), neuropathic pain and obesity (Gardell *et al*, 2006). Therefore lysophospholipid receptors have emerged as drug targets for therapeutic intervention (Gardell *et al*, 2006).

VPC 32179 is a competitive antagonist at the LPA_3 receptor. VPC 32179 is devoid of agonist activity at the human LPA_2 and LPA_3 receptors. However, VPC 32179 has been found to have partial agonist activity in a cell migration assay; this is most likely due to activity at the LPA_1 receptor.

How to use:

Please use the following web links for **TLC** or **liposome preparation**

References:

• Skoura A, Hla T (2009) Lysophospholipid receptors in vertebrate development, physiology, and pathology. J Lipid Res. 2009 Apr;50 Suppl:S293-8
• 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
• Chun, J (2005) Lysophospholipids in the nervous system. Prostaglandins & other Lipid Mediators 77: 46–51
• Prestwich GD *et al* (2005) New metabolically stabilized analogues of lysophosphatidic acid: agonists, antagonists and enzyme inhibitors. Biochem Soc Trans. 33: 1357–1361
• Santos WL *et al* (2004) Synthesis and biological evaluation of phosphonic and thiophosphoric acid derivatives of lysophosphatidic acid. Bioorg Med Chem Lett 14:3473-3476.

Related products: Receptor Agonist/Antagonist

MSDS: Available at www.avantilipids.com for Product Number 857350

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