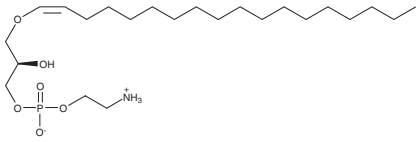
PRODUCT INFORMATION

1-1(Z)-Octadecenyl-2-hydroxy-*sn*-glycero-3-PE

Item No. 41466

CAS Registry No.: 174062-73-8
Formal Name: Phosphoric acid, mono(2-aminoethyl) mono[(2R)-2-hydroxy-3-[(1Z)-1-octadecen-1-yloxy]propyl] ester
Synonyms: 18p/0:0-PE, C18(plasm)-0:0-PE, LPE P-18:0, 1-1(Z)-Octadecenyl-2-hydroxy-*sn*-glycero-3-phosphoethanolamine, PE(P-18:0/0:0)
MF: $C_{23}H_{48}NO_6P$
FW: 465.6
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

1-1(Z)-Octadecenyl-2-hydroxy-*sn*-glycero-3-PE is supplied as a solid. A stock solution may be made by dissolving the 1-1(Z)-octadecenyl-2-hydroxy-*sn*-glycero-3-PE in the solvent of choice, which should be purged with an inert gas. 1-1(Z)-Octadecenyl-2-hydroxy-*sn*-glycero-3-PE is slightly soluble (0.1-1 mg/ml) in acetonitrile DMSO.

Description

1-1(Z)-Octadecenyl-2-hydroxy-*sn*-glycero-3-PE is a lysoplasmalogen that contains 1(Z)-octadecenoic acid at the *sn*-1 position.[1] It increases intracellular levels of cAMP, mitochondrial oxygen consumption rate (OCR), basal and maximal respiration, and ATP production in C3H/10T1/2 murine fibroblasts when used at a concentration of 10 µM. 1-1(Z)-Octadecenyl-2-hydroxy-*sn*-glycero-3-PE (200 µg/kg per day) reduces blood levels of glucose in an intraperitoneal glucose tolerance test (GTT) in mice fed a high-fat diet. The serum levels of 1-1(Z)-octadecenyl-2-hydroxy-*sn*-glycero-3-PE are reduced in patients with sepsis-induced acute respiratory distress syndrome (ARDS).[2] 1-1(Z)-Octadecenyl-2-hydroxy-*sn*-glycero-3-PE has been found in fish viscera.[3]

References

1. Cho, Y.K., Yoon, Y.C., Im, H., *et al.* Adipocyte lysoplasmalogenase TMEM86A regulates plasmalogen homeostasis and protein kinase A-dependent energy metabolism. *Nat. Commun.* **13(1),** 4084 (2022).
2. Chang, Y., Yoo, H.J., Kim, S.J., *et al.* A targeted metabolomics approach for sepsis-induced ARDS and its subphenotypes. *Crit. Care* **27(1)**, 263 (2023).
3. Shen, Q., Wang, Y., Gong, L., *et al.* Shotgun lipidomics strategy for fast analysis of phospholipids in fisheries waste and its potential in species differentiation. *J. Agric. Food Chem.* **60(37),** 9384-9393 (2012).

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