

PRODUCT INFORMATION



Cardiolipin (bovine heart) (sodium salt)

Item No. 41880

CAS Registry No.: 383907-10-6

Formal Name: bis((R)-2,3-bis(((9Z,12Z)-octadeca-9,12-dienoyl)oxy)propyl) (2-hydroxypropane-1,3-diyl) bis(phosphate), disodium salt

Synonyms: CL, Diphosphatidylglycerol

MF: $C_{81}H_{140}O_{17}P_2 \cdot 2Na$ (for tetralinoleoyl)

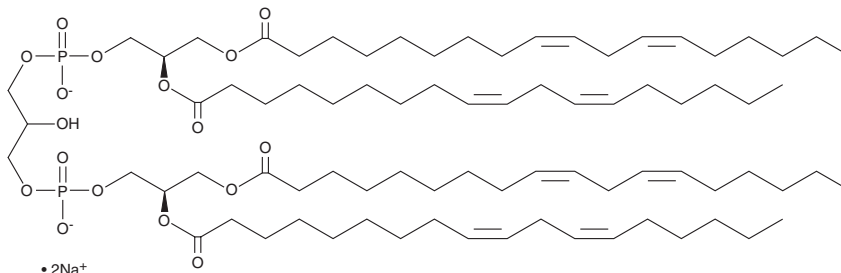
FW: 1,493.9

Purity: $\geq 90\%$

Supplied as: A crystalline solid

Storage: $-20^{\circ}C$

Stability: ≥ 4 years



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

Laboratory Procedures

Cardiolipin (bovine heart) (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the cardiolipin (bovine heart) (sodium salt) in the solvent of choice, which should be purged with an inert gas. Cardiolipin (bovine heart) (sodium salt) is sparingly soluble (1-10 mg/ml) in chloroform.

Description

Cardiolipin is an anionic phospholipid found in bacteria and mitochondria.¹⁻³ It is composed of a glycerol backbone linked to two phosphatidyl groups that each contain two fatty acyl chains. Cardiolipin makes up approximately 10% of the total phospholipid composition of bovine heart and approximately 20% of phospholipids in the mitochondrial membrane.^{4,5} It is involved in mitochondrial fusion, division, protein import, and apoptosis.^{2,3,6} Decreased cardiolipin levels, increased monolysocardiolipin levels, and alterations in cardiolipin fatty acyl chain composition are found in patients with Barth syndrome, a disease characterized by cardiomyopathy, skeletal myopathy, neutropenia, and growth retardation.³ This product contains cardiolipin molecular species with primarily C18:2 (~80%) and C18:1 (~14%) fatty acyl chain lengths.

References

1. Kariyama, R. Increase of cardiolipin content in *Staphylococcus aureus* by the use of antibiotics affecting the cell wall. *J. Antibiot. (Tokyo)* **35**(12), 1700-1704 (1982).
2. Kameoka, S., Adachi, Y., Okamoto, K., et al. Phosphatidic acid and cardiolipin coordinate mitochondrial dynamics. *Trends Cell Biol.* **28**(1), 67-76 (2018).
3. Shen, Z., Ye, C., McCain, K., et al. The role of cardiolipin in cardiovascular health. *Biomed Res. Int.* 891707 (2015).
4. Das, M.L. and Rouser, G. Lipid composition of beef heart ventricle. *Lipids* **2**(1), 1-4 (1967).
5. Fleischer, S., Rouser, G., Fleischer, B., et al. Lipid composition of mitochondria from bovine heart, liver, and kidney. *J. Lipid Res.* **8**(3), 170-180 (1967).
6. Iverson, S.L. and Orrenius, S. The cardiolipin-cytochrome c interaction and the mitochondrial regulation of apoptosis. *Arch. Biochem. Biophys.* **423**(1), 37-46 (2004).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM