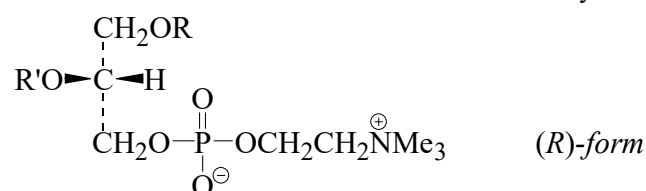




>>Entry Name: Phosphatidylcholine

ENTRY UNDER REVIEW

Synonym(s): 1,2-Diacylglycero-3-phosphocholine. Lecithin. Vitellin. Kelecine. Granulestin. Lecithol. Diacyllecithin. Diacylphosphatidylcholine



R, R' = acyl groups

CAS Registry Number: 8002-43-5

Related CAS Registry Numbers(s): 70094-88-1

Biological Source: First identified in egg yolk, ox brain and soybean oil. Present in microorganisms and throughout the animal and vegetable kingdoms; structural component of intracellular membranes and the plasma membrane. Major phospholipid in lung surfactant, component of bile. Used in food processing as an emulsifier and anti-sticking agent

Use/Importance: Emollient, emulsifying and solubilising agent

Biological Use/Importance: Involved in permeability, oxidative phosphorylation, phagocytosis and chemical and electrical excitation. Forms bilayers in aq. dispersions which are used to model biol. membranes and to prepare liposomes for drug delivery systems and cosmetics

Other Data: The degree of unsaturation and chain length result in distinct physical and biol. props. Mammalian phosphatidylcholine usually has a saturated acyl group at *sn*-1 and an unsaturated group at *sn*-2. The term lecithin is also used to describe a mixture of phosphatidyl esters isolated from vegetable oils and consisting mainly of phosphatidyl-choline, -serine, -ethanolamine and -inositols with some triglycerides, fatty acids and carbohydrates. There is extensive proliferation of CAS numbers for phosphatidylcholines owing to specification of stereochemistry at different levels of precision in the literature

Fluka: 61753

Sigma: P6013

>>Variant: Glycerol 1,2-dihexanoate 3-phosphocholine

Synonym(s): 4-Hydroxy-*N,N,N*-trimethyl-10-oxo-7-[(1-oxohexyl)oxy]-3,5,9-trioxa-4-phosphapentadecan-1-aminium inner salt 4-oxide, 9Cl. Choline phosphate ester with 1,2-dihexanoin, 8Cl

CAS Registry Number: 34506-67-7

Molecular Formula: C₂₀H₄₀NO₈P

Molecular Weight: 453.512

Accurate Mass: 453.249156

Percentage Composition: C 52.97%; H 8.89%; N 3.09%; O 28.22%; P 6.83%

Physical Description: Hygroscopic powder

Optical Rotation: [α]_D +10.9 (c, 4.6 in H₂O)

>>Variant: Glycerol 1,2-didecanoate 3-phosphocholine

Synonym(s): Didecanoylphosphatidylcholine. Dicaproylphosphatidylcholine

CAS Registry Number: 13699-47-3

Extra CAS Registry Numbers(s): 3436-44-0 63700-87-8

Molecular Formula: C₂₈H₅₆NO₈P

Molecular Weight: 565.726

Accurate Mass: 565.374356

Percentage Composition: C 59.45%; H 9.98%; N 2.48%; O 22.62%; P 5.48%

>>Variant: Glycerol 1,2-didodecanoate 3-phosphocholine

Synonym(s): Didodecanoylphosphatidylcholine. Dilauroylphosphatidylcholine

CAS Registry Number: 18194-25-7

Extra CAS Registry Numbers(s): 18285-71-7 18656-40-1 127641-86-5

Molecular Formula: C₃₂H₆₄NO₈P

Molecular Weight: 621.833

Accurate Mass: 621.436956

Percentage Composition: C 61.81%; H 10.37%; N 2.25%; O 20.58%; P 4.98%

Physical Description: Cryst.

Optical Rotation: [α]_D +6.1 (c, 1.5 in CHCl₃/MeOH 1:1)