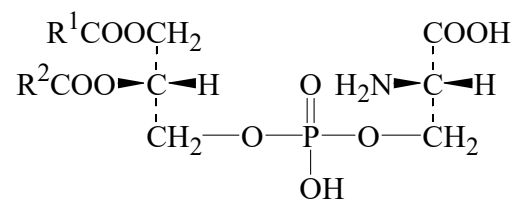




>>Entry Name: Phosphatidylserine

Synonym(s): 1,2-Diacylglycero-3-phosphoserine



phosphoserine (3-*sn*-phosphatidylserine). The serine residue is *S*- (L-) in all natural compds. The position and chain length of the alkyl groups and their degree of unsaturation result in distinct biol. and phys. props. Mammalian phosphatidylserine usually has a saturated acyl group in the *sn*-1 position and an unsaturated group at *sn*-2

Source/Synthesis: Conveniently prepared by phospholipase D-catalysed transphosphatidylation of Phosphatidylcholine [LRV43-T](#)

Biological Source: Isol. from brain tissue. Widely distributed but minor membrane phospholipid

Use/Importance: Biosynth. precursor of Phosphatidylethanolamine [DVY29-A](#)

>>Variant: Glycerol 1,2-ditetradecanoate 3-phosphoserine

Synonym(s): Serine 2,3-bis[(1-oxotetradecyl)oxy]propyl hydrogen phosphate ester, 9Cl. Dimyristoylphosphatidylserine

CAS Registry Number: 64023-32-1

Extra CAS Registry Numbers(s): 2954-45-2 71074-98-1 71074-99-2 80581-65-3

Molecular Formula: C₃₄H₆₆NO₁₀P

Molecular Weight: 679.87

Accurate Mass: 679.442436

Percentage Composition: C 60.07%; H 9.78%; N 2.06%; O 23.53%; P 4.56%

Optical Rotation: [α]_D²² -6 (CHCl₃). [α]_D²² -13.5 (C₆H₆)

Other Data: Stereoisomers with L- and DL-serine residues are known

>>Variant: Glycerol 1,2-dihexadecanoate 3-phosphoserine

Synonym(s): Serine 2,3-bis[(1-oxohexadecyl)oxy]propyl hydrogen phosphate ester, 9Cl. Dipalmitoylphosphatidylserine

CAS Registry Number: 40290-42-4

Extra CAS Registry Numbers(s): 3036-82-6

Molecular Formula: C₃₈H₇₄NO₁₀P

Molecular Weight: 735.977

Accurate Mass: 735.505036

Percentage Composition: C 62.02%; H 10.13%; N 1.90%; O 21.74%; P 4.21%

Physical Description: Solid (CHCl₃/Me₂CO)

Melting Point: Mp 155-158°

Optical Rotation: [α]_D +5.5 (CHCl₃/MeOH/H₂O)

>>Variant: Glycerol 1,2-di-octadecanoate 3-phosphoserine

Synonym(s): Serine 2,3-bis[(1-oxooctadecyl)oxy]propyl hydrogen phosphate ester, 9Cl. Distearoylphosphatidylserine

CAS Registry Number: 51446-62-9

Extra CAS Registry Numbers(s): 80581-66-4 92216-05-2

Molecular Formula: C₄₂H₈₂NO₁₀P

Molecular Weight: 792.084

Accurate Mass: 791.567636

Percentage Composition: C 63.69%; H 10.43%; N 1.77%; O 20.20%; P 3.91%

Melting Point: Mp 159-161°

Optical Rotation: [α]_D⁵⁵ +7.4 (c, 0.5 in CHCl₃/AcOH 9:1) (opt. rotn. refers to DL-serine sample)

>>Variant: Glycerol 1,2-di-9Z-octadecenoate 3-phosphoserine

Synonym(s): Serine 2,3-bis[(1-oxo-9-octadecenyl)oxy]propyl hydrogen phosphate ester, 9Cl. Dioleoylphosphatidylserine

CAS Registry Number: 6811-55-8

Extra CAS Registry Numbers(s): 63976-14-7 70614-14-1 71049-19-9 72904-03-1 90693-88-2 104641-04-5 123808-28-6

Molecular Formula: C₄₂H₇₈NO₁₀P

Molecular Weight: 788.053

Accurate Mass: 787.536336

Percentage Composition: C 64.01%; H 9.98%; N 1.78%; O 20.30%; P 3.93%

Optical Rotation: [α]_D²² -17.8 (C₆H₆). [α]_D²² -7.8 (CHCl₃)

Other Data: Stereoisomers having D- and DL-serine configs. have also been prepd.