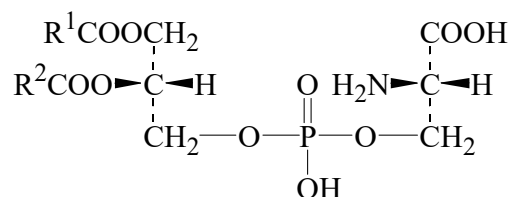




**>>Entry Name: Phosphatidylserine**

**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:** C<sub>34</sub>H<sub>66</sub>NO<sub>10</sub>P

**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:**  $[\alpha]_{\text{D}}^{22} -6$  (CHCl<sub>3</sub>).  $[\alpha]_{\text{D}}^{22} -13.5$  (C<sub>6</sub>H<sub>6</sub>)

**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:** C<sub>38</sub>H<sub>74</sub>NO<sub>10</sub>P

**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 (CHCl<sub>3</sub>/Me<sub>2</sub>CO)

**Melting Point:** Mp 155-158°

**Optical Rotation:**  $[\alpha]_{\text{D}} +5.5$  (CHCl<sub>3</sub>/MeOH/H<sub>2</sub>O)

**>>Variant: Glycerol 1,2-dioctadecanoate 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:** C<sub>42</sub>H<sub>82</sub>NO<sub>10</sub>P

**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:**  $[\alpha]_{\text{D}}^{55} +7.4$  (c, 0.5 in CHCl<sub>3</sub>/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:** C<sub>42</sub>H<sub>78</sub>NO<sub>10</sub>P

**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:**  $[\alpha]_{\text{D}}^{22} -17.8$  (C<sub>6</sub>H<sub>6</sub>).  $[\alpha]_{\text{D}}^{22} -7.8$  (CHCl<sub>3</sub>)

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