

## PRODUCT DATA SHEET

### Phosphatidylserine

**Catalog No:** 1047

**Common Name:** PS

**Source:** natural, bovine

**Solubility:** chloroform, toluene

**CAS No:** 51446-62-9

**Molecular Formula:** C<sub>42</sub>H<sub>78</sub>NO<sub>10</sub>P

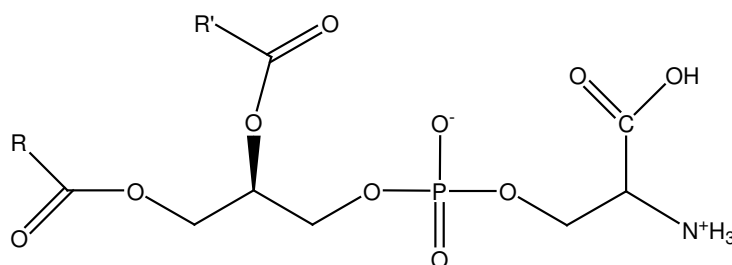
**Molecular Weight:** 788 (oleoyl)

**Storage:** -20°C

**Purity:** TLC > 98%; identity confirmed by MS

**TLC System:** chloroform/methanol/DI water/  
2.5N ammonium hydroxide,  
(65:25:3:2 by Vol.)

**Appearance:** liquid



### **Application notes:**

Phosphatidylserine (PS) is a negatively charged glycerophospholipid that is widespread but quantitatively minor phospholipid in mammalian cells. PS is found mainly in animals and white beans. PS is found mostly on the inner layer of the plasma membrane. During cell apoptosis it is redistributed to the outer layer where it functions as a ligand for phagocyte recognition and as an anti-inflammatory.<sup>1</sup> In vertebrates, PS is a signal for removal by macrophages. PS is also externalized for various cellular functions such as cell fusion, blood clotting and regulating cell signaling. It acts as an important part of the lipid-calcium-phosphate complex needed for mineral formation.<sup>2</sup> PS has been extensively investigated for a number of possible therapeutic roles including treating dementia, relieving stress, and recovering from exercise.<sup>3</sup>

### **Selected References:**

1. Banafsheh Mirnikjoo, Krishnakumar Balasubramanian, and Alan J. Schroit "Suicidal Membrane Repair Regulates Phosphatidylserine Externalization during Apoptosis" *The Journal of Biological Chemistry*, August, Vol. 284 pp. 22512, 2009
2. Licia N. Y. Wu, Brian R. Genge and Roy E. Wuthier "Analysis and Molecular Modeling of the Formation, Structure, and Activity of the Phosphatidylserine-Calcium-Phosphate Complex Associated with Biomineralization" *The Journal of Biological Chemistry*, Feb. Vol. 283 pp.3827, 2008
3. T. H. Crook, PhD, J. Tinklenberg, MD, J. Yesavage, MD, W. Petrie, MD, M. G. Nunzi, PhD and D. C. Massari, PhD "Effects of phosphatidylserine in age-associated memory impairment" *American Academy of Neurology*, Vol. 41 pp. 644, 1991

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