

## Phosphatidyl Serine

### A Multifunctional Brain Nutrient

#### DESCRIPTION

Phosphatidyl serine softgels, provided by Douglas Laboratories®, contain 500 mg of plant-derived (soy bean) phospholipids supplying 100 mg of phosphatidyl serine (PS). Until recently, PS was only available as a very expensive product derived from bovine sources, with microbiological safety problems. New technology has made it possible to concentrate this important brain nutrient from soy bean lecithin, a safe and well-recognized source of phosphatidyl serine.

#### FUNCTIONS

Phosphatidylserine (PS), a phospholipid nutrient, is active in cell membranes and is the major acidic phospholipid component in the membranes of the brain. Membranes are the working surfaces of every cell, carrying out the essential functions of cellular communication and hormonal signal transduction. Nerve cells, in particular, depend on healthy membrane function for normal neurotransmitter metabolism and nerve signal transmission. PS occupies a crucial role in many of these membrane-associated nerve cell processes. The fundamental function of PS is to help maintain proper membrane fluidity, which has major implications on most membrane functions. † In the brain, PS helps maintain normal capacity for acetylcholine release and thus is important to the cholinergic neurotransmitter system. † PS has similar functions in the dopamine, noradrenaline and serotonin dependent neurotransmitter systems. It is also needed for sodium and potassium transport via its influence on ATPase activity. PS assists in maintaining adequate glucose utilization in the brain. † Glucose is the preferred energy substrate for nerve cells which, unlike other cells, are unable to use fatty acids or proteins for energy production. Brain glucose utilization, an indicator of brain activity, often declines during aging.

Another related function of PS is its role in controlling the normal balance of stress hormones. PS is involved in the body's response to counterbalance the excessive release of adrenocorticotrophic hormone (ACTH) and adrenaline after physical stress from exercise, while supporting normal growth hormone release at the same time. † Dietary PS is efficiently and rapidly absorbed in the intestine, taken up into the blood, and readily crosses the blood-brain barrier to reach the nerve cells of the brain.

#### INDICATIONS

Phosphatidyl serine softgels may be a useful dietary supplement for individuals who wish to support the body's nervous system and brain function.

#### FORMULA (PHS)

Each softgel contains:

|   |       |
|---|-------|
| Total Phospholipids .....                       | 500mg |
| Supplying approximately:                        |       |
| Phosphatidylserine .....                        | 100mg |
| Phosphatidylcholine .....                       | 45mg  |
| Phosphatidylethanolamine .....                  | 10mg  |
| Phosphatidylinositol .....                      | 5mg   |
| Fatty Acids (free and phospholipid-bound) ..... | 360mg |

#### SUGGESTED USE

One to three softgels daily or as directed by physician. Phosphatidyl serine should be taken with meals. Dietary PS may be taken with other supplements, such as Basic Preventive®, Added Protection III®, Acetyl-L-Carnitine, Ginkgo, or FlavonAll®.

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#### SIDE EFFECTS

No adverse side effects have been reported.

#### STORAGE

Store in a cool, dry place, away from direct light. Keep out of reach of children.

#### REFERENCES

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**For more information on Phosphatidyl Serine visit [douglaslabs.com](http://douglaslabs.com)**

† These statements have not been evaluated by the Food and Drug Administration.  
This product is not intended to diagnose, treat, cure, or prevent any disease.

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Your patients trust you.**