



Smart PS™

Phosphatidylserine

Promotes Mental Alertness

*Phosphatidylserine is a building block for brain cell membranes.
Healthy, well-structured cell membranes promote optimal brain cell performance.
Brain cell activity is important for proper memory recall.*

NUTRIENT INFORMATION

What Is It?

Phosphatidylserine (PS) is classified as a phospholipid that is found in the membranes that surround and protect each cell. It is composed of fatty acids and the minerals nitrogen and phosphorus.¹ Phospholipids are important fat-soluble nutrients that are essential for the structure and function of cell membranes. PS is very similar to lecithin (phosphatidylcholine). The body can make phosphatidylserine, and small amounts are present in the diet.

Commercially available PS is manufactured from enzymatically modified soy lecithin. Early studies of phosphatidylserine distilled the chemical from bovine brain. Because of concerns about the possible transfer of infectious diseases (including BSE), however, modern studies and commercially-available products are made from soybeans.

Enhanced Stability. PS in soft gel capsules undergoes significant degradation, resulting in a shorter shelf-life. To overcome this problem, Soft Gel Technologies, Inc.'s (SGTI's) Smart PS is an exclusive fluid dispersion PS material that has greater stability, and is especially designed for high quality soft gel applications.

Using stability and shelf-life studies based on FDA guidelines along with external and internal quantitative state-of-the-art analyses, SGTI's soft gel phosphatidylserine capsules maintain their PS level and quality for long periods of time. These soft gels also exhibit an excellent correlation between normal and accelerated conditions, leading to a superior delivery form of PS to end-users.

How Does It Work?

Phosphatidylserine is the major fatty substance

in the brain. It protects the function of brain cells by stabilizing the membranes of the cells.² Phosphatidylserine may increase brain function by limiting the deterioration of cell membranes that contribute to brain aging.³ PS plays a major role in determining the integrity and fluidity of cell membranes. Without sufficient levels of PS, brain cells do not transmit nerve impulses properly.

Who Should Use Phosphatidylserine?

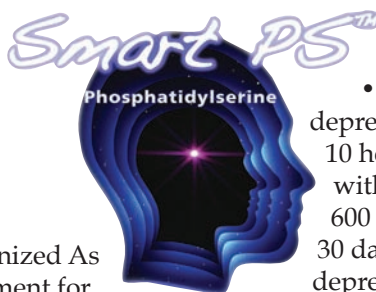
People who are interested in improving mental alertness, memory, and concentration may wish to take phosphatidylserine. Normally, the brain can manufacture sufficient levels of phosphatidylserine, but there is evidence that insufficient production in the elderly may be linked to depression, poor memory, and impaired mental function. Older people may especially benefit from extra phosphatidylserine. Lower levels of PS in the elderly may be related to aging, a deficiency of key nutrients required to manufacture PS, or an increased rate of free radical damage to PS.

People with impaired mental function can benefit from supplementation with PS. Good clinical results have been obtained in numerous double-blind studies. In these studies, PS supplementation has been shown to improve mental function, mood, and behavior in elderly subjects including those with early stages of Alzheimer's disease and Parkinson's disease.⁴

How Much Should I Use?

200-300 milligrams per day of phosphatidylserine is commonly used in human studies.^{2,3,5} The common intake of PS, based on PS intakes utilized in clinical trials and covered in scientific and clinical literature, ranges between 100 mg and 300 mg per day. Accordingly, 100 mg/day of Smart PS is the minimum recommended daily dosage.

For more immediate results, 4 weeks of PS supplementation at 300 mg/day, followed by dosages of 100 mg/day may be recommended.



Are There Any Side Effects?

SGTI's Smart PS material is Generally Recognized As Safe (GRAS) and is a safe nutritional supplement for older persons if taken up to a dosage of 200 mg, three times daily.⁶ Phosphatidylserine has no known side effects. Unlike typical antidepressant drugs, phosphatidylserine does not influence serotonin and other neurotransmitters, suggesting another mechanism of action, such as a reduction in the secretion of the stress hormone cortisol

BODY BENEFITS

Research Findings

- In laboratory animals, phosphatidylserine has been shown to decrease the age-related loss of the brain cells important for learning and memory.^{7,8,9}
- In elderly people with declining mental function, phosphatidylserine improved attention, arousal, and memory compared to people taking an inactive placebo. The amount of phosphatidylserine used was 300 milligrams per day for 2 or 3 months.^{3,5}
- Phosphatidylserine has been demonstrated in clinical trials to improve memory, concentration, word recall, and mood in middle-aged and elderly subjects with dementia and

- age-related cognitive decline.¹⁰
- PS relieves symptoms of anxiety and depression in elderly women. Researchers studied 10 healthy elderly women and 10 elderly women with major depression. The women were given 600 milligrams of phosphatidylserine daily for 30 days. PS significantly improved symptoms of depression in the women.¹¹
- In people with Alzheimer's disease, phosphatidylserine improved some types of mental performance. The amount of phosphatidylserine used was 200 milligrams per day for 3 months.²
- Researchers suggest that phosphatidylserine may delay mental decline when taken before the onset of Alzheimer's disease.¹²

HOT NEWS

Phosphatidylserine and Sports Nutrition

Phosphatidylserine has been demonstrated to hasten recovery from intense athletic training, prevent muscle soreness, and improve well-being. PS has been reported to be an effective supplement for combating exercise-induced stress by blunting the exercise-induced increase in cortisol levels.¹³ PS supplementation in athletes promotes a desirable hormonal balance and might ease the physiological deterioration that accompanies overtraining and/or overstretching.¹⁴

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SOFT GEL
TECHNOLOGIES, INC.[®]
800.360.SGTI
www.soft-gel.com • sales@soft-gel.com