

EPCholine™

High purity GlyceroPhosphoCholine (GPC)

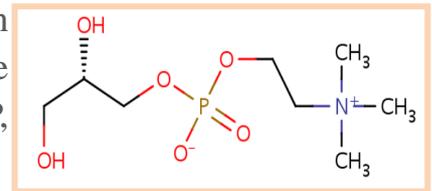


Introduction

EPCholine™ is high purity GlyceroPhosphoCholine (GPC) hydrolyzed from soybean phospholipids. It can be used as a versatile life support nutrient or an active pharmaceutical ingredient for people of various ages.

Specification

EPCholine™ contains at least 98% GPC. The production process complies with international food manufacture standards including ISO9001, ISO22000 and NSF-GMP, and also endorsed with Kosher and Halal certificates.



Key benefits of EPCholine™



EPCholine™ (GPC) supports synthesis of the essential neurotransmitter acetylcholine, while improving cognitive function, memory, speech, behavior, and attention in Alzheimer's, Age-Related dementia, and even in vascular dementia patients.

Other benefits of EPCholine™

- Improves mental performance, word cell and working memory capacity in both young and middle-aged patients
- Improves male fertility
- Improves liver function & health
- Accelerates recovery of Stroke patients

The science of GPC in human

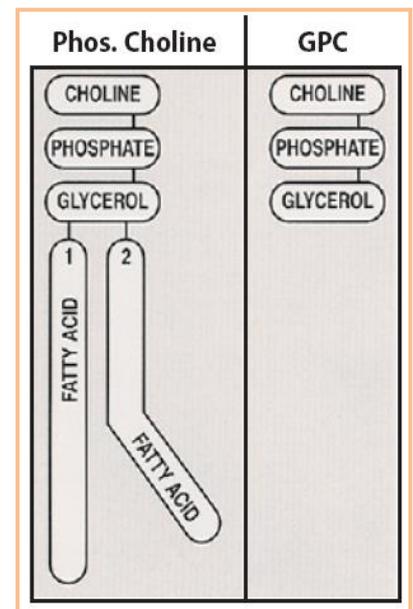
GPC (also known as L-alpha-glycerolphosphorylcholine or choline alfoscerate) is a naturally occurring molecule in all the body's cells and mother's milk. GPC is an "activated" form of choline, the difference stemming from the addition of a phosphate and glycerol group. In humans, GPC taken by mouth is well absorbed and increases plasma levels of choline for up to ten hours.

GPC delivers various beneficial biological functions to human body.

Main choline reservoir

In GPC, the lipophilic fatty acid part of the phospholipid is missing, which makes choline water-soluble. So that this "activated" choline can pass through the blood-brain barrier and easily be absorbed.

Choline is the precursor of acetylcholine (key nerve and muscle neurotransmitter). The defect of acetylcholine leads to a range of cognition deficits. Unlike the dementia drugs such as donepezil (Aricept®) and rivastigmine (Exelon®) known as acetylcholinesterase inhibitor, GPC stimulates the manufacture of new acetylcholine. And it requires less energy on the pathway to acetylcholine synthesis or addition of specific brain fatty acids such as DHA.



Cell-level protectant

GPC is a major cell-level protectant, not as another antioxidant but in pivotal roles of osmotic pressure regulator and metabolic antitoxin. GPC for osmotic regulation can reach very high concentrations in the kidney, bladder, liver, brain, and other organs. As metabolic protectant, GPC shields proteins against urea buildup.

Building cell membrane

GPC is a major reservoir for cell membrane omega-3 phospholipids. These substances are the major building blocks for cell membranes. Enzymes couple GPC with the omega-3 fatty acid DHA, to make the phospholipid PC-DHA. This makes membranes especially fluid, enabling membrane proteins to perform with better efficiency.



GPC produces PC-DHA in the skeletal muscles, wherein fluidity is essential for contraction. Muscles that function abnormally can show GPC deficiency.

Reproduction

GPC contributes to both male and female in reproduction. As spermatozoa mature, GPC is used to make PC-DHA that makes their membranes fluid to enable motility. In men, the lower their semen GPC, the greater the likelihood of poor sperm motility and with it, infertility. Once semen is inserted into the female, an enzyme in uterine secretions breaks down the semen's GPC into substances that energize the sperm to achieve fertilization.

Regulation Status



GPC is allowed to be sold in Europe by prescription only, but available in the US as a dietary supplement. GPC is a hydrolysis product of lecithin, which is a ubiquitous natural constituent of biological organisms and human food. Lecithin is considered to be GRAS by US Food and Drug Administration (FDA) (21CFR 184.1400) (US Code of Federal Regulations, 2006).

Recommended dosage

Oral intake of GPC in the clinical trials was usually 1,200 milligrams (mg) per day, taken early in the day on an empty stomach. A reasonable dietary supplementation regimen is 1200 mg/day, taken in divided doses (AM and PM) between meals for 15-30 days, and thereafter 600 mg/day for maintenance. Symptomatic subjects can take 1200 mg/day until adequate improvement is achieved. Young, healthy subjects may experience benefit from daily intakes as low as 300 milligrams.

