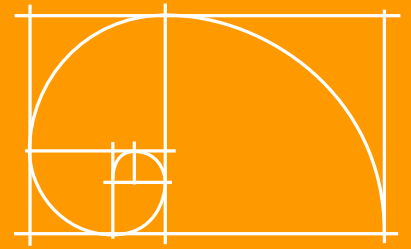




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## What is Citicoline?

Citicoline, also known as cytidine diphosphate-choline, is a potent and efficacious chemical designed to aid in brain function and to ward off mental capacity decline associated with aging. Citicoline is the most thoroughly studied choline agent precursor among the scientific community and is ubiquitously prescribed as a medical/pharmacological drug in most parts of the world.

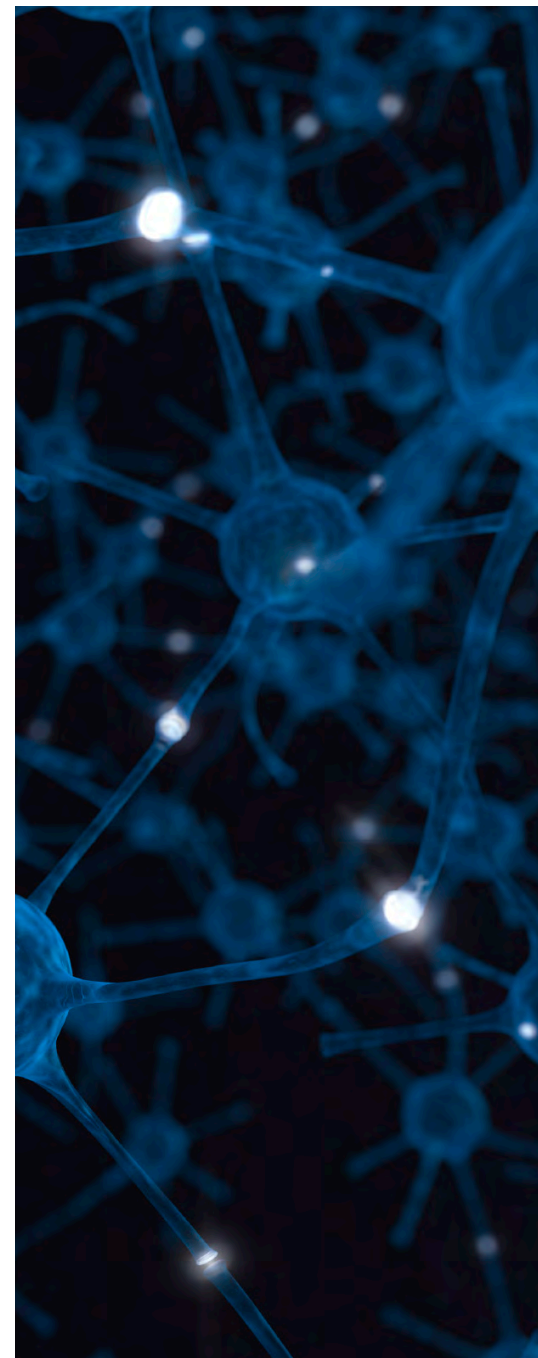
Citicoline is a completely all natural substance that is essential to maintain communication between neurons as well as to epistatically regulate proper chemical balance and neuronal metabolism. As we age, Citicoline is more vital than ever due to progressive decline in neuronal function. Supplementation of Citicoline can help sustain healthy neurological homeostasis as well as give us a much-needed mental boost in an all-natural way.

## Functions of Citicoline

Citicoline is made of two active components, cytidine and choline. Once Citicoline is digested and absorbed, the two molecules are liberated, cross the blood brain barrier and are incorporated as precursors for the production of vital amphipathic phospholipids that are required for proper cognitive function.

By having two active components, Citicoline is able to improve neuronal function and utilization in a multifaceted way, including:

- Maintaining neuronal membrane fluidity and homeostasis
- Providing proper balance and production of neurotransmitters (phosphatidylcholine, acetylcholine, dopamine, and noradrenaline)
- Regulation and improvement of brain metabolism through epistatic regulation of neuronal mitochondria



\*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.

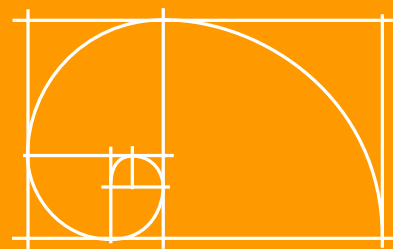
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## Neuroprotective Effects

Citicoline has many important functions within the brain. One role includes serving as an intermediate in the production of neuronal phospholipids and acetylcholine.

Research in a double-blind placebo-controlled clinical study showed promise of Citicoline in reducing lesions associated with stroke victims (Warach, et al, 2000).

Another independent clinical study followed a cohort of elderly patients with age-related cognitive impairment who were given Citicoline supplements. The group who received Citicoline had a significantly measurable increase in metabolites (phosphocreatine and phospholipid membrane content) within the frontal lobe, the area of the brain important for performing working memory tasks. The researchers concluded that not only did Citicoline mitigate cognitive declines associated with aging, but it also helped patients improve energy utilization (Silveri, 2008).

## Product Specification

**Recommended daily intake:** 250-1000 mg    **Molar mass:** 489.332 g/mol  
**Pack size:** 1 kg (custom packaging available)    **CAS number:** 987-78-0  
**Molecular formula:**  $C_{14}H_{26}N_4O_{11}P_2^+$     **Density:** 1.963 g/cm<sup>3</sup>

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