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Citicoline

National Cancer Institute

Source

National Cancer Institute. *Citicoline*. NCI Thesaurus. Code C96743.

A nutritional supplement and source of choline and cytidine with potential neuroprotective and nootropic activity. Citicoline, also known as cytidine-5-diphosphocholine or CDP-choline, is hydrolyzed into cytidine and choline in the intestine. Following absorption, both cytidine and choline are dispersed, utilized in various biosynthesis pathways, and cross the blood-brain barrier for resynthesis into citicoline in the brain, which is the rate-limiting product in the synthesis of phosphatidylcholine. This agent also increases acetylcholine (ACh), norepinephrine (NE) and dopamine levels in the central nervous system (CNS). In addition, citicoline is involved in the preservation of sphingomyelin and cardiolipin and the restoration of Na⁺/K⁺-ATPase activity. Citicoline also increases glutathione synthesis and glutathione reductase activity, and exerts antiapoptotic effects.