



MONTIFF, INC.  
*Don Tyson's Advanced Nutraceuticals*  
**CDP-CHOLINE**  
**BRAIN ALERT!**



**Brain Alert!** contains CDP-Choline (Cytidine 5-diphosphocholine), which crosses the blood brain barrier and is the most effective type of choline, essential for neurological health.<sup>3,7</sup> CDP-Choline enhances production of Acetylcholine, a primary neurotransmitter important for neurological function and memory.<sup>1,3,4,6,7,8</sup> CDP-Choline is beneficial for cognitive and behavioral disturbances associated with chronic cerebral disorders or the elderly, as well as providing brain cell support to those with head trauma.<sup>1,3,7.</sup>

Each capsule of Brain Alert! contains 250 mg. of the purest, highest quality CDP Choline available.

**DIRECTIONS:** For neurological and memory support take 1 –2 capsules per day or as needed. For acute head trauma, doctors may recommend up to 1000 mg. per day (4 capsules). Folic acid, B6, and B12 are recommended for proper metabolism. (Take Montiff B-Complete or B-Long along with Vita-Minz vitamin-mineral formulation - except for those taking the drug Coumadin, since these vitamin formulations contain Ginkgo Biloba). All-Basic amino acid formula is also recommended for additional support.

CAUTION: CDP Choline should not be used by manic-depressives.

**RECOMMENDED TO ENHANCE STRUCTURE & FUNCTION RELATING TO NUTRITIONAL NEEDS AND DEFICIENCIES PERTAINING TO:**

- Health and maintenance of brain cells.
- Protection of brain cells against neurotoxins.
- Function for synthesis of neurotransmitter Acetylcholine.
- Support of metabolic brain cell function for memory and thought.
- Low levels may cause brain dysfunction in senile dementia resulting in memory loss and poor brain function.
- Brain cell support for acute head trauma and stroke.

**WHAT IS CDP CHOLINE?**

Brain cells need choline for proper function, and since very little is produced in these cells, it must be supplied through dietary sources. Some food sources of Choline are organ meats, eggs, fish, milk, legumes, and soy. Folic acid and other B vitamins are essential for the synthesis of choline to CDP Choline and then to Acetylcholine, a neurotransmitter that is important for memory, thought and proper neurological health. CDP Choline (Cytidine 5-diphosphocholine) crosses the blood brain barrier and is the most effective type of supplemental choline to enhance Acetylcholine production.

**CHOLINE DEFICIENCY AND ALZHEIMER'S**

More than 1 in 10 people over 65 suffer from Alzheimer's Disease, the most common form of dementia. It is characterized by a deficiency of the neurotransmitter Acetylcholine, causing brain dysfunction and memory loss, and alterations in the cholinergic system are considered to be key factors in cognitive and functional deficits. CDP Choline is important because it

\*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.

crosses the blood brain barrier, and supplementation with CDP Choline has been successful for cognitive and behavioral disturbances associated with chronic cerebral disorders in the

elderly. Several double-blind studies have indicated **significant beneficial effects on memory function and behavior.**

## **HOMOCYSTEINE LEVELS, FOLIC ACID, AND ALZHEIMER'S**

- Folic Acid is essential for the conversion of choline to the neurotransmitter, Acetylcholine. Deficiencies and alterations in the cholinergic system occur in Alzheimer's, causing problems associated with dementia. The February 14<sup>th</sup> 2002, issue of "The New England Journal of Medicine" reported a study of 1092 patients with high homocysteine levels conducted by the well-respected Framingham (Mass.) Heart Study program. Dr. Seshadri, MD (et al) of Boston University School of Medicine, concluded that older people with *high levels of homocysteine in their blood have almost twice the risk of later developing Alzheimer's*. It has previously been reported in many journals, including the *N. E. J. of Med.*, and *JAMA*, that high homocysteine levels have been linked to heart disease, stroke and Parkinson's. Also high homocysteine (an abnormal amino acid metabolite) can be reduced and prevented by taking Folic acid, along with B6 and B12.
- It is very important to take a B complex with sufficient Folic Acid, B6 and B12 to reduce homocysteine levels as well as to synthesize choline to Acetylcholine.

## **SUMMARY & OTHER IMPORTANT CONSIDERATIONS**

- CDP Choline has been used successfully to improve memory and behavioral function in patients with Alzheimer's as reported in several medical studies.
- CDP Choline is also recommended for acute brain trauma for neurological health and support (up to 1000 mg. per day).
- Free radical damage is also considered to be a cause of plaque formations in the brain, a contributing factor in dementia. Montiff recommends Super Antioxidant formula for daily health support to help prevent oxidative damage.
- Vitamin E (1000 units B.I.D.) as reported from the Annual Scientific Assembly re: Alzheimer's Disease, may be beneficial. This study noted supplementation delayed nursing home placement by 230 days as compared with a placebo. Montiff recommends Super E with Tocotrienols and Natural Vitamin E.
- N-Acetyl-L-Carnitine HCL may also be beneficial for memory problems. This compound, and additional information on this subject, is available from Montiff.
- Folic Acid (along with B 6 and B12) is essential in a daily health program for everyone, to prevent high homocysteine levels and to synthesize CDP Choline - helping to prevent Alzheimer's as well as heart attacks and strokes. Montiff B-Long or B-Complete are recommended.
- CDP Choline provides brain support for neurological function and health, and is beneficial to all individuals, including students, who are concerned with maintaining and enhancing memory.

### **REFERENCES:**

1. Floravanti, M, Yangi M, "Cytidinediphosphocholine (CDP Choline) for Cognitive and Behaviorual Disturbances Associated with Chronic Cerebral Disorders in the Elderly", *Cochrane Review Abstracts*, 1/01/02 Oxford.
2. Seshadri, S, MD., et al, "Plasma Homocysteine as a Risk Factor for Dementia and Alzheimer's Disease", *The New England Journal of Medicine*, Feb. 14, 2002.
3. Kennedy, R. MD, "Choline", *The Doctor's Medical Library*, 2002.
4. Handy MD., Kauffer MD et al "Highlights From The Annual Scientific Assembly: Managing the Stages of Alzheimer's Disease – New Management Options", *Southern Medical Journal*, *Southern Medical Assoc.* 2002.
5. Sano M. et al as reported in above re: Vitamin E. - *N. Engl J. Med.* 1997.
6. Pettegrew et al, "Acetyl-L-Carn. Phys.-Chem, Metabol., & Therapeut. Prop. Relevance for Mode of Act. In Alzheimer's," *Mol/Psy*,2000.
7. Swendsweid, Allman-Farinelli, et al, "Folate and Choline Interplay Investigated", *Agricultural Research*, 3/2001.
8. Hunt, Alan, Clark, Graeme, Attard, G, Postle, "Highly Saturated Endonuclear Phosphatidylcholine is Synthesized in Situ and Co-located with CDPcholine Pathway Enzymes", *J. Biol. Chem*, 12/12/2000.

*\*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.*

*Copyright Montiff, Inc. 5/2002*