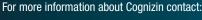


Science Snapshot

What does it do? What is Cognizin® Citicoline? What is citicoline? A naturally occurring nutrient found in Citicoline increases an important substance A clinically tested form of citicoline that the brain. in the brain called phosphatidylcholine that can supply your brain with the nutrition it is critical for healthy brain function. needs to stay sharp. Key studies that show Cognizin® Citicoline's support of focus & attention* 13.6% Increase in Energy Cognizin® Citicoline's effect on cellular **Utilization (Brain Energy)** synthesis and brain energy Researchers observed increases in brain activity 26% Increase in Membrane Turnover among middle-aged adults who had taken 500mg Cognizin® for six weeks*1 Cognizin® increased the formation of brain membranes by 26% and restored brain Placebo 6 weeks@500 mg/day Cognizin® energy by 13.6%.* Metabolite level (Phosphoethanolamine) Metabolite level (ATP) Decrease in Cognizin® Citicoline's effect **Commission Errors** Decrease in on focus and attention **Omission Errors** Cognizin® at 250mg / day improves attention and focus in middle-aged women*2 Women taking 250mg of Cognizin® Citicoline experienced fewer omission and 4 weeks@250 mg/day Cognizin® commission errors compared to placebo.* Cognizin® Citicoline's effect on motor Significant increase in motor Improved attention on speed and attention in adolescent males speed on Finger Tap test Ruff 2 & 7 Speed Task test Researchers observed an increase in both attention and psychomotor speed in adolescent Adolescent males taking 250mg or 500mg males after 28 days of Cognizin® supplementation*3 of Cognizin® exhibited improved attention and a significant increase in psychomotor Placebo 28 days@250 mg or 500 mg/day Cognizin® speed compared to placebo.* Changes of Total Score Change in Ruff 2 & 7 in Dominant Hand Speed Score Cognizin® Citicoline's Improvment in Episodic Memory Improvement in Overall Memory effect on memory Significantly improved to a greater extent Significantly greater improvements following citicoline supplementation in episodic memory Cognizin® at 500 mg/day can support episodic memory and Assessed using globally-renowned overall memory in healthy older Cambridge Brain Sciences standardized adults (ages 50-85).*4 test, men and women taking Cognizin® Baseline Baseline experienced statistically significant increases Baseline Placebo in the score for episodic (recalling events) Cognizin® Citicoline 500 mg/day memory and overall memory.* Week 12 Week 12 Week 0

*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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^{1.} Silveri MM et al. Citicoline enhances frontal lobe bioenergetics as measured by phosphorus magnetic resonance spectroscopy. NMR Biomed. 2008; 21(10):1066-75.

2. McGlade E. et al. Improved Attentional Performance Following Citicoline Administration in Healthy Adult Women. Food and Nutrition Sciences. 2012;3:769-773.

3. McGlade E. et al. The Effect of Citicoline Supplementation on Motor Speed and Attention in Adolescent Males. Journal of Attention Disorders. 2015; 1557-1246.

^{4.} Nakazaki E, et al. Citicoline and Memory Function in Healthy Older Adults: A Randomized, Double-Blind, Placebo-Controlled Clinical Trial [published online ahead of

print, 2021 May 12]. J Nutr. 2021;nxab119.