

### **Ginkgo Capsules**

# Support for the nervous and cardiovascular systems

- · Helps to enhance cognitive function and memory in adults
- Provides support for peripheral circulation
- Standardized to contain 24% flavone glycosides and 6% terpene lactones
- Convenient once-daily vegetarian capsule format
- Improved
  - Formula revision now provides 160 mg of ginkgo leaf std. extract (28-50:1) per dose

Ginkgo Capsules provide a standardized extract of ginkgo leaf to support the nervous and cardiovascular systems. Research has demonstrated that daily supplementation with 120 mg of ginkgo biloba (standardized to 24% flavone glycosides and 6% terpene lactones) for 30 days significantly supports memory processes (including both working memory and memory consolidation) in healthy adults aged 18-40.¹ Randomized controlled trials have also found that ginkgo intake can help increase performance on cognitive tasks in older adults.².³ Ginkgo provides support for peripheral circulation and may further promote cerebrovascular health by increasing blood flow in the brain.²-⁴ Preclinical research suggests that ginkgo may provide these benefits by regulating oxidative stress in brain tissue, supporting neuronal health, controlling calcium homeostasis in endothelial cells, and mediating blood viscosity and platelet aggregation.⁵.66



#### **EACH CAPSULE CONTAINS:**

Ginkgo (Ginkgo biloba) Leaf Std. Extract (28-50:1) . . . . . 160 mg (24% flavone glycosides, 6% terpene lactones/ 4.48-8 g Dried Equivalent)

Non-Medicinal Ingredients: Cellulose, hypromellose

#### **Recommended Dose**

Adults: Take 1 capsule daily, or as recommended by your healthcare practitioner. Consult your healthcare practitioner for use beyond 6 weeks.

**Product Size** 

60 Vegetarian Capsules

NPN 80084356









**Product Code** 07455



1. Stough, C, Clarke, J, Lloyd, J, Nathan, PJ. Int J Neuropsychopharmacol. 2001; 4(2): 131-4.

2. Santos, RF, Galduróz, JC, Barbieri, A, Castiglioni, ML, Ytaya, LY, Bueno, OF. Pharmacopsychiatry. 2003; 36(4): 127-33.

3. Zhang, SJ, Xue, ZY. Asian Pac J Trop Med. 2012; 5(8): 661-4.

4. Mehlsen, J, Drabaek, H, Wiinberg, N, Winther, K. Clin Physiol Funct Imaging. 2002; 22(6): 375-8.

5. Zuo, W, Yan, F, Zhang, B, Li, J, Mei, D. Aging Dis. 2017; 8(6): 812-826.

6. Mahadevan, S, Park, Y. J Food Sci. 2008; 73(1): R14-9.

## Ginkgo Capsules

### **Scientific Rationale:**

The ginkgo tree is one of the oldest living species, having grown in forests for over 150 million years. Although ginkgo biloba has been used in traditional Chinese medicine for thousands of years to support a wide variety of body systems, it has more recently been used for its beneficial effects on cognitive and vascular health. Ginkgo contains a wide variety of bioactive compounds, including flavonoids and terpenoids, which are the two primary pharmacologically active groups.

Preclinical research has demonstrated that ginkgo biloba effectively scavenges free radicals and regulates oxidative stress in brain tissue.<sup>2</sup> Ginkgo has also been shown to support healthy levels of brain-derived neurotrophic factor (BDNF, a factor involved in neuronal health and neuroplasticity).<sup>2</sup> By promoting healthy blood flow in the brain, ginkgo may further contribute to cerebrovascular function.<sup>1</sup> Additional research suggests that ginkgo may affect blood circulation by regulating calcium homeostasis in endothelial cells and platelet aggregation.<sup>2</sup>

In a randomized, double-blind, placebo-controlled trial, daily supplementation with ginkgo biloba extract significantly supported cognitive function in young, healthy volunteers.<sup>3</sup> Participants between the ages of 18-40 consumed either a placebo or 120 mg of ginkgo biloba (standardized to 24% flavone glycosides and 6% terpene lactones) for 30 days.<sup>3</sup> Researchers reported that ginkgo supplementation significantly supported memory processes (including both working memory and memory consolidation) as measured by neuropsychological tests.<sup>3</sup> Furthermore, ginkgo intake led to significant increases in subjective measures of well-being, including cognitive clarity and self-reported memory and attention abilities.<sup>3</sup>

As individuals age, oxidative damage to DNA, lipids and proteins normally increases.<sup>2</sup> In turn, this can impact the function of the neurological and cardiovascular systems.<sup>2</sup> Beneficial effects of ginkgo biloba on cognitive and vascular health were observed in a randomized, double-blind,

placebo-controlled trial involving in adults aged 60-70.4 Male participants consumed either a placebo or 80 mg of dried ginkgo biloba extract daily for eight months.4 Ginkgo biloba supplementation increased performance on cognitive tasks associated with general intelligence, visuospatial abilities, attention processes and information processing speed.4 Intake of ginkgo also helped to reduce blood viscosity, while increasing perfusion in parts of the frontal, parietal, temporal and occipital brain areas.4

An additional randomized, controlled trial investigated the cerebrovascular effects of ginkgo biloba supplementation in adults aged 60-75.5 Participants in the ginkgo group received 40 mg of ginkgo biloba three times daily for three months along with the control supplement.5 After the completion of the trial period, combined supplementation significantly supported cognitive function when compared to both baseline and control values.5 Specifically, combined intake significantly increased executive ability, attention, abstract, deferred memories, orientation force and total cognitive assessment scores.5 Combined supplementation also significantly improved blood flow velocity in the middle and anterior cerebral arteries when compared to baseline and control values.5 These arteries provide important blood flow to the frontal and temporal lobes, which are parts of the brain closely associated with cognitive function.5

Ginkgo biloba has also been found to exert beneficial effects on peripheral circulation.<sup>6,7</sup> In a randomized, double-blind, crossover study, healthy adults aged 21-47 consumed a placebo or ginkgo biloba supplement (containing 9.6 mg flavone glycosides and 2.4 mg terpene lactones) three times daily for six weeks.<sup>6</sup> Forearm blood flow significantly increased after three and six weeks of ginkgo intake when compared to placebo values.<sup>6</sup> Similarly, a recent meta-analysis of eight randomized, placebo-controlled, double-blind trials concluded that ginkgo biloba supplementation is superior to placebo in supporting symptoms of impaired peripheral circulation, such as increasing pain-free walking distance.<sup>7</sup>

#### REFERENCES

- 1. Mahadevan, S, Park, Y. J Food Sci. 2008; 73(1): R14-9.
- 2. Zuo, W, Yan, F, Zhang, B, Li, J, Mei, D. Aging Dis. 2017; 8(6): 812-826.
- 3. Stough, C, Clarke, J, Lloyd, J, Nathan, PJ. Int J Neuropsychopharmacol. 2001; 4(2): 131-4.
- 4. Santos, RF, Galduróz, JC, Barbieri, A, Castiglioni, ML, Ytaya, LY, Bueno, OF. Pharmacopsychiatry. 2003; 36(4): 127-33.
- 5. Zhang, SJ, Xue, ZY. Asian Pac J Trop Med. 2012; 5(8): 661-4.
- 6. Mehlsen, J., Drabaek, H., Wiinberg, N., Winther, K. Clin Physiol Funct Imaging. 2002; 22(6): 375-8.
- 7. Pittler, MH, Ernst, E. Am J Med. 2000; 108(4): 276-81.

