Ginkgo biloba

Enhance Brain Function

- Supports healthy cognitive function
- Enhances blood flow in the brain
- Provides antioxidant benefits and helps delay the onset of cognitive decline
- A standardized extract with effective quantities of active ingredients

Details

Ginkgo biloba is one of the most well-known and well established medicinal herbs in the world, and is used mainly to support memory and cognitive function. This is attributed to its ability to enhance cerebral circulation, increasing blood flow and the delivery of oxygen and nutrients to the brain. This improves brain cell performance and provides antioxidant protection against neurodegeneration. Studies also show that Ginkgo biloba reinforces blood vessel structure in the brain and protects cerebral nerve cells from damage when deprived of oxygen.

Ginkgo supports cognitive function in young healthy adults, older healthy adults and has been shown to improve cognitive performance and social functioning in patients with cognitive decline.

AOR’s standardized Ginkgo biloba extract is made from plants carefully cultivated on plantations using agricultural technology to produce leaves richer in ginkgolide B, yielding a minimum of 0.8% – the highest range available.

Discussion
Ginkgo Biloba helps to enhance memory and cognitive function in adults, and helps to support peripheral circulation.

**Product Variation**

<table>
<thead>
<tr>
<th>Product Code</th>
<th>Size</th>
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<tbody>
<tr>
<td>AOR04298</td>
<td>90 VEGI-CAPS</td>
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**Supplements Facts**

<table>
<thead>
<tr>
<th>Serving Size: 1 Capsule</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Ginkgo biloba extract (50:1)†</td>
<td>120 mg</td>
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<tr>
<td>Flavone glycosides</td>
<td>24 %</td>
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<tr>
<td>Terpene lactones</td>
<td>6 %</td>
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†Equivalent to 6 g dried leaf.

Non-medical ingredients:

- microcrystalline cellulose, sodium stearyl fumarate. Capsule: hypromellose.

**Guarantees**

AOR™ guarantees that all ingredients have been declared on the label. Contains no wheat, gluten, corn, nuts, peanuts, sesame seeds, sulphites, mustard, soy, dairy, eggs, fish, shellfish or any animal byproduct.

**Adult Dosage**

Take 1 capsule daily with/without food, or as directed by a qualified health care practitioner.

**Cautions**

Consult a health care practitioner prior to use if you are taking medications for diabetes, high blood pressure, or seizures, if you are pregnant, breastfeeding or for use beyond 6 weeks. Do not use if you are taking health products that affect blood coagulation (e.g. blood thinners, clotting factor replacements, acetylsalicylic acid, ibuprofen, fish oils, vitamin E) as this may increase the risk of spontaneous bleeding.

**Source**

Natural botanical extract

Ginkgo tree leaves harvested at the peak of terpene lactone content

**Main Application**

- Age-related cognitive decline
- Cerebral vascular support
Research

Background

Ginkgo biloba is one of the most well-known and most-sold herbs around the world. Its use in traditional folk medicine goes back to “Chen Hounge Pen T’sao” – a form of pharmacopoeia created in ancient China around the year 2800 BC. Ginkgo is the sole survivor of a tree species, dating back over 200 million years ago that has become legendary for its durability and its ability to extract nutrients from the soil.

Ginkgo is monographed in the modern Chinese Pharmacopoeia as well as in the United States and Germany. In fact, Ginkgo biloba extract has been proven in Germany (in accordance with the Commission E monographs) to reduce the symptoms of cerebral insufficiency. These symptoms include memory loss associated with conditions such as Alzheimer’s disease and vascular dementia, among others. Ginkgo is also used to cope with the symptoms of tinnitus, vertigo and of intermittent claudication (inadequate blood flow to the lower limbs). Studies also show that Ginkgo biloba enhances the integrity of the capillary walls and protects nerve cells of brain damage associated with a lack of oxygen.

Ginkgo biloba contains a variety of compounds, but the two main active ingredients, namely terpenoid lactones and flavonoids are responsible for the central effects of increased cerebral blood flow and protection against oxidants.

1. Terpenoid Lactones

Terpenoid substances impart a strong, bitter flavor. Ginkgo Biloba 50:1 contains a minimum of 6% terpene lactones, considered the highest percent available.

2. Flavonoids (Antioxidant Potential)
a. Ginkgoflavonglycosides (also called heterosides). Ginkgo flavonoids are up to 10 times more potent than citrus bioflavonoids. Ginkgo Biloba 50:1 is standardized for 24% flavonoids. Some of the flavonoids found in Ginkgo biloba include quercetin, kaempferol and isorhamnetin.

b. Proanthocyanidins, which are ionized (negatively charged) flavonoids, are also found in pine bark, grape skin and grape seeds.

c. Other flavonoid groups found in minor quantities are coumarin esters and catechins.

d. The most potent and important compounds in Ginkgo biloba are the ginkgolides A and B. Ginkgo Biloba 50:1 is rich in ginkgolides, containing a minimum of 0.8% — the highest range available.

Studies by Casato, Doly, Fink, and others strongly suggest that ginkgolide B is the most important component of Ginkgo biloba. Ginkgolide B has been isolated and studied as compound BN 52021 and shown to have biological effects. In fact, editor Pierre Braquet, Ph.D’s review text on the effects of ginkgo is entitled “Ginkgolides and ginkgo flavonoids”. According to Braquet, the world’s leading authority on Ginkgo biloba, the extracts are 90% absorbed.

Cognitive Benefits

Ginkgo biloba enhances cerebral microcirculation in the brain, keeping needed energy and oxygen flowing to the brain. Many controlled trials have demonstrated the ability of Ginkgo to support cognitive function.

Research

Good for Both Young and Old

- A recent randomized, double-blind, placebo-controlled trial found that 4 weeks of treatment with Ginkgo biloba extract in younger patients led to significantly superior measures of anxiety disorder or adjustment disorder with anxious mood compared to the placebo group.
- A meta-analysis of nine studies concluded that Ginkgo biloba extracts are beneficial in certain forms of cognitive disorders.

Ginkgo biloba is also useful for those whose mental faculties have not yet begun to decline.

- A randomized, double-blind, placebo-controlled, parallel-group study gave Ginkgo biloba extracts to 60 healthy volunteers between 50 and 65 years of age. After 4 weeks, self-estimated mental health and quality of life were significantly better in the Ginkgo group compared to placebo.
- A placebo-controlled, double-blind, crossover study found that acute administration of Ginkgo biloba (120-360 mg) produced a sustained improvement in attention in healthy young adults compared to placebo.

Healthy Cellular Processes

Ginkgo biloba is beneficial in promoting normal cell growth. In vitro studies have found that it is
effective for promoting normal cell growth in the ovaries, breasts and liver. A clinical trial found that Ginkgo biloba decreased the risk of abnormal cell growth in the ovaries. These effects are partly due to the anti-proliferative effects of Ginkgo extracts, along with quercetin and ginkgolide A and B. The latter appear to be able to block the cell cycle, thereby preventing unhealthy cells from continuing to divide.

Ginkgo biloba has overall been found to be safe and well tolerated, although it does have several potential drug interactions to be aware of.

**Market Trends**

Ginkgo biloba is mostly known for its memory-enhancing effects. The most potent and important compounds in Ginkgo biloba are the ginkgolides A and B.

**AOR Advantage**

AOR’s Ginkgo Biloba 50:1 begins with its plantation-grown leaves. Japan Greenwave carefully cultivates their own leaves on plantations using agricultural technology to produce leaves richer and more potent in ginkgolide B, yielding a minimum of 0.8% – the highest range available. AOR’s Ginkgo Biloba is a well-standardized extract, with effective quantities of active ingredients to maintain the optimal health of your mind.

**References**


Abstract

Ginkgo biloba special extract EGb 761((R)) in generalized anxiety disorder and adjustment disorder with anxious mood: A randomized, double-blind, placebo-controlled trial.


Woelk H, Arnoldt KH, Kieser M, Hoerr R.

Ginkgo biloba special extract EGb 761((R)), an anti-dementia drug, enhances cognitive functioning and stabilizes mood in cognitively impaired elderly subjects. Moreover, EGb 761((R)) had been found to alleviate symptoms of anxiety in people with mental decline, therefore it was now tested for clinical efficacy in younger patients suffering from anxiety. One hundred and seven patients with generalized anxiety disorder (GAD, n=82) or adjustment disorder with anxious mood (ADWAM, n=25) according to the diagnostic and statistical manual of mental disorders, third edition – revised (DSM-III-R) were randomized to daily doses of 480mg EGb 761((R)), 240mg EGb 761((R)) or placebo for 4 weeks. Intention-to-treat (ITT) analyses were performed on the primary outcome measure, the Hamilton rating scale for anxiety (HAMA), and the secondary variables, the clinical global impression of change (CGI-C), the Erlangen anxiety tension and aggression scale (EAAS), the list of complaints (B-L’), and the patient’s global rating of change. The HAMA total scores decreased by -14.3 (/-8.1), -12.1 (/-9.0) and -7.8 (/-9.2) in the high-dose EGb 761((R)), the low-dose EGb 761((R)) and the placebo group, respectively. Changes were significantly different from placebo for both treatment groups with p=0.0003 (high-dose group) and p=0.01 (low-dose). Regression analyses revealed a dose-response trend (p=0.003). EGb 761((R)) was significantly superior to placebo on all secondary outcome measures. It was safe and well tolerated and may thus be of particular value in elderly patients with anxiety related to cognitive decline.

Effects of Ginkgo biloba on mental functioning in healthy volunteers.


Cieza A, Maier P, and Poppel E.

BACKGROUND: There has been a lack of investigations examining the effects of Ginkgo biloba extract EGb 761 on mental functions and quality of life in healthy subjects with no cognitive impairment. Thus, the objective of the present study was to evaluate the relatively short-term (i.e., 4 weeks) effects of EGb 761 on mental functioning and quality of life in healthy volunteers.

METHODS: The trial was conducted as a 4-week, randomized, double-blind, placebocontrolled, parallel-group, monocentric study. Sixty six healthy volunteers aged between 50 and 65 years without
age-associated cognitive impairment were randomized, 32 into the placebo and 34 into the EGb 761-treatment group (240 mg, tid). Safety and compliance were monitored after 1, 2, 3 and 4 weeks. Primary outcome measures in this study are the subjects’ judgment of their own mental health (MH), their general health (GH) and their quality of life (QoL) operationalized on the basis of three different visual analog scales (VAS). Secondary outcome measures are 15 tests and experimental procedures based on a neurobiologically based classification or taxonomy of functions.

RESULTS: Intergroup differences in self-estimated mental health as well as self-estimated quality of life were significant in favor of EGb 761. No intergroup differences were found in self-estimated general health. Secondary outcomes supporting the notion of superiority of the active drug were found for both motor performance and emotional evaluation. This study did not reveal evidence of unknown drug-induced side effects or intolerance. No serious adverse events were observed during the study.

CONCLUSIONS: Both questions treated in this study, efficacy and safety, are important from a medical perspective because many persons take the agent studied in an effort to enhance their mental functioning and general well-being. The findings of this study support the adequacy of intake of EGb 761 to improve the functions indicated previously.

The memory-enhancing effects of Ginseng and Ginkgo biloba in healthy volunteers.


Kennedy DO, Scholey AB and Wesnes KA.

RATIONALE: Chronic administration of extracts from the leaves of the tree Ginkgo biloba is known to improve aspects of cognitive performance. However, little is known about the effects of acute doses of Ginkgo on coherent cognitive domains. Recent factor analysis of test measures from subtasks of the Cognitive Drug Research (CDR) computerised assessment battery has revealed that four primary cognitive ‘factors’ corresponding to speed of attention, accuracy of attention, speed of memory and quality of memory can be useful to describe cognitive function changes.

OBJECTIVE: The present study aimed at assessing whether acute administration of Ginkgo biloba had any consistent effect on the four CDR factors.

METHODS: The study utilised a placebo-controlled, multi-dose, double-blind, balanced, crossover design. Twenty participants received 120 mg, 240 mg and 360 mg of a standardised extract of Ginkgo (GK501, Pharmaton, SA) or a matching placebo. Cognitive performance was assessed using the CDR computerised test battery immediately prior to dosing and at 1, 2.5, 4 and 6 h thereafter. The primary outcome measures were the four aspects of cognitive performance, which have previously been derived by factor analysis of CDR subtests.
RESULTS: Compared with the placebo, administration of Ginkgo produced a number of significant changes on the performance measures. The most striking of these was a dose-dependent improvement of the ‘speed of attention’ factor following both 240 mg and 360 mg of the extract, which was evident at 2.5 h and was still present at 6 h. Additionally, there were a number of time- and dose-specific changes (both positive and negative) in performance of the other factors.

CONCLUSIONS: We conclude that acute administration of Ginkgo biloba is capable of producing a sustained improvement in attention in healthy young volunteers.