HMF Neuro Cognition‡

Probiotic formula with bacopa and carotenoids for brain and memory support‡

- Provides a combination of clinically researched probiotics, BACOGNIZE® Bacopa extract, lutein and zeaxanthin
- Formulated to support cognitive health, memory and brain function‡
- Helps maintain eyesight and support healthy macular pigment optical density‡
- Provides 25 billion CFU per daily dosage

HMF Neuro Cognition‡ was specifically developed to support cognitive health, memory and brain function. It offers BACOGNIZE® Bacopa, a standardized extract of the Bacopa monnieri plant, which has a long history of traditional use in Ayurveda. BACOGNIZE® Bacopa has been clinically shown to support cognitive health and brain function, enhancing performance in a test measuring attention, freedom from distractibility and working memory. As the brain and gut reciprocally communicate, this formula includes a blend of four proprietary, research-driven probiotics that have been shown in clinical research to support aspects of cognitive health. To further provide cognitive support, HMF Neuro Cognition‡ offers the important carotenoid antioxidants lutein and zeaxanthin. Research demonstrates that these carotenoids help maintain eyesight, support healthy macular pigment optical density, and may be associated with improved cognitive function.‡

**Supplement Facts**

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>BACOGNIZE® Bacopa (Bacopa monnieri) Aerial Parts Std. Extract (10-20:1) (12% Bacosides/3-6 g Dried Equivalent)</td>
<td>300 mg *</td>
</tr>
<tr>
<td>Lutein (from Aztec marigold oleoresin)</td>
<td>10 mg *</td>
</tr>
<tr>
<td>Zeaxanthin (from Aztec marigold oleoresin)</td>
<td>2 mg *</td>
</tr>
<tr>
<td><strong>Probiotic Consortium</strong></td>
<td>25 billion CFU *</td>
</tr>
</tbody>
</table>

* Daily Value (DV) not established

Other ingredients: Cellulose, hypromellose, sunflower lecithin, silica

BACOGNIZE® is a registered trademark of Verdure Sciences, Inc.

**Recommended Dose**

Take 2 capsules daily with a meal containing oil or as recommended by your health professional.
The brain is responsible for important abilities and processes, including memory, attention, motor skills and visualization. Both its function and structure normally change over time, depending on genetics, health status, lifestyle and the environment. While aging is inevitable, there are modifiable factors that can help support cognitive function across the lifespan. For example, maintaining antioxidant status helps reduce oxidative damage, which normally accumulates in the aging brain. Additionally, the brain and intestinal microflora reciprocally influence each other, suggesting that an optimal gut flora composition may contribute to proper cognitive function. Research has found that age-related decreases in cognitive function normally occur in healthy individuals, beginning in their late 20s and extending through their lifetimes.

Bacopa has been traditionally used in Ayurveda to support cognitive health for over 3,000 years. In a recent meta-analysis of nine randomized, placebo-controlled trials, daily intake of 300 mg of bacopa for at least 12 weeks improved cognitive function, including measures of memory and attention. Emerging evidence suggests that bacopa contains a wide variety of phytochemicals that support cognitive health, including bacosides, and acts by promoting antioxidant defense, supporting cerebrovascular blood flow and regulating neurotransmitter levels.

BACOGNIZE® is a proprietary, clinically researched bacopa extract standardized to total bacossids. Preclinical research has shown that this extract can bind to and regulate the activity of serotonin receptor 5HT1a, which plays an important role in neurochemical responses. BACOGNIZE® also contains flavonoids and polyphenols with antioxidant capacity found to be greater than acai, cocoa and curry powder, which may further contribute to its beneficial health effects.

Randomized, double-blind, placebo-controlled trials have reported that BACOGNIZE® improves cognitive function in both young healthy subjects and older adults. Daily supplementation with 300 mg of the extract for approximately 7-12 weeks significantly improved measures of cognitive function, including memory and attention. As one trial involved the completion of cognitive tests four weeks after supplementation ended, the study’s authors suggested that BACOGNIZE® may exert a sustained, positive effect on brain function.

Emerging research has also focused on a bidirectional connection between the gut and brain, termed the gut-brain axis. While the brain affects the gastrointestinal tract by modulating transit, secretions, nutrient absorption and blood flow, the gut can also impact brain function. For example, gut bacteria have been shown to produce neurotransmitters such as GABA, serotonin and acetylcholine, as well as neuroactive metabolites, including short-chain fatty acids (which can activate neurons and cross the blood-brain barrier). In addition to these compounds, the gut and brain communicate through the vagus nerve, which connects the brain stem to the gastrointestinal tract.

HMF Neuro Cognition includes the HMF probiotic consortium, which has been shown across in vitro, animal and human clinical trials to support aspects of cognitive health. Daily supplementation with this probiotic combination in rats significantly improved measures of memory and increased the concentration of metabolites (such as GABA) in the frontal cortex, while these strains increased attention scores in a human clinical trial.

As the eye is an extension of the central nervous system, researchers are investigating the relationship between cognitive function and the carotenoids lutein and zeaxanthin. In addition to their presence in the lens and macula of the retina, lutein and zeaxanthin are found in the brain. Research has reported that higher levels of these carotenoids are positively associated with improved cognitive function across a range of ages. Although their mechanism of action has not been confirmed, preliminary evidence suggests they may support the brain by mediating antioxidant activity, cytokine balance or neuronal processing (such as promoting cell-to-cell communication and structural stability).

Age-related structural and functional changes affect not only the brain, but also the eyes. Evidence suggests that lutein and zeaxanthin support eye health by reducing oxidative damage resulting from metabolic activity and light exposure (which can accumulate over time). In addition, they have also been shown to directly scavenge free radicals and decrease light-induced peroxidation in membrane phospholipids, while absorbing and attenuating the effects of high-energy blue light before it can reach retinal cells. Further support is provided by the role of lutein and zeaxanthin in reducing the risk of age-related macular degeneration, macular degeneration and age-related cognitive decline.

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.

REFERENCES