

# NeuroGenic

Mood, Focus, & Cognitive Enhancer

**Alimentum Labs**

alimentumlabs.com  
1.800.445.4647

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# NeuroGenic

## Mood, Focus, & Cognitive Enhancer

Protects and enhances cognitive functions by providing studied ingredients including nootropics for modulating acetylcholine metabolism and promoting healthy expression of *APOE*, *BDNF*, *DRD2*, and other genes.



Brain



Hormone



Whole Body



Cardio

## Health Indications

- Protect Against Age-Related Cognitive Decline
- Enhance Memory and Recall
- Improve Focus and Mental Clarity
- Reduce Brain Fog and Cognitive Fatigue
- Protect Against Oxidative Stress and Neuroinflammation
- Stabilize Mood and Stress Response
- Boost Learning and Academic Performance
- Promote Cognitive Endurance for High-Demand Mental Tasks

## Instructions For Use

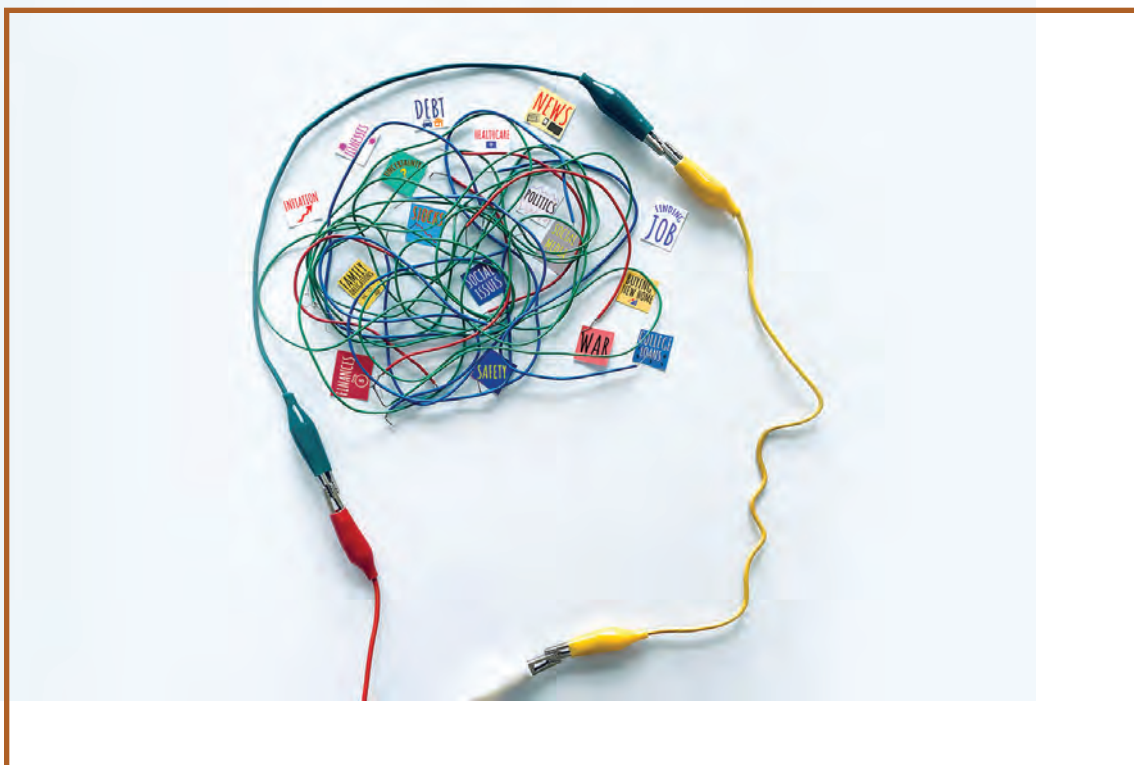
Take 2 capsules/day with or without food or as directed by the practitioner.

\*\*Individual needs may vary; please consult your practitioner before altering the prescribed doses or protocols.

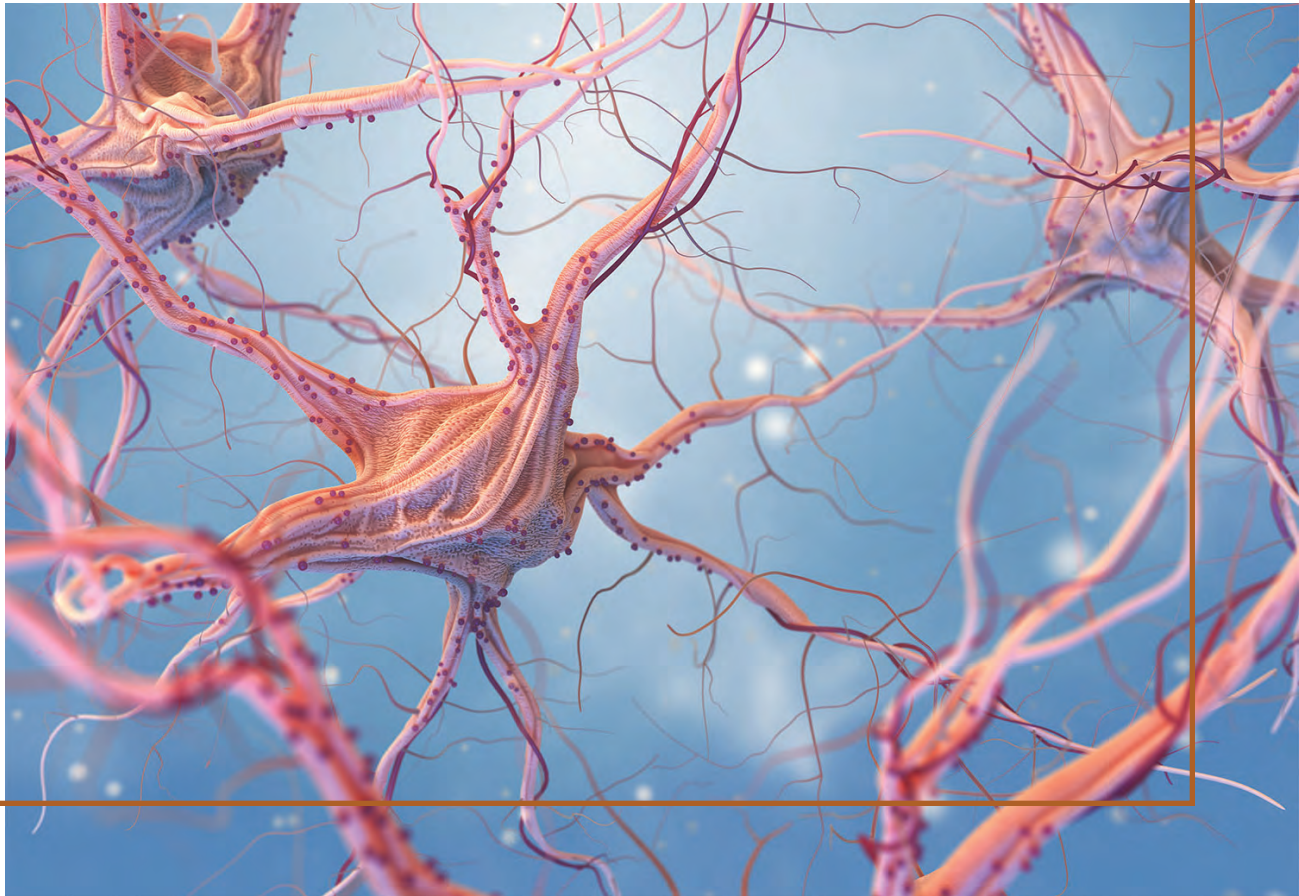
## Product Description

NeuroGenic is designed to support cognitive function, memory, and focus by targeting key pathways involved in brain health. It provides a carefully selected blend of nootropics and neuroprotective compounds that promote acetylcholine metabolism, neurotransmitter balance, and synaptic plasticity. By supporting the expression of genes like *APOE*, *BDNF*, and *DRD2*, NeuroGenic helps maintain cognitive performance, learning ability, and mental clarity.

This formula addresses common cognitive concerns such as brain fog, mental fatigue, and age-related memory decline. It enhances cerebral blood flow, neurotransmission, and neuroprotection, ensuring that brain cells function efficiently under both daily cognitive demands and long-term stress. With ingredients that reduce oxidative stress and inflammation, NeuroGenic also supports neuronal resilience against age-related decline and environmental factors.



By optimizing brain energy metabolism, neurotransmitter signaling, and neurotrophic support, NeuroGenic provides a balanced approach to cognitive health. Whether you are looking to maintain mental sharpness, improve focus, or support long-term brain function, this formula delivers research-backed ingredients to help keep your mind performing at its best.



## Key Elements and Features of NeuroGenic

### Enhances Memory & Learning

NeuroGenic supports acetylcholine metabolism and synaptic plasticity, helping to improve memory retention, recall, and learning capacity. By promoting neurogenesis and optimizing neurotransmitter function, it aids in long-term cognitive performance.

### Improves Focus & Mental Clarity

By optimizing dopamine, serotonin, and acetylcholine activity, NeuroGenic reduces brain fog and cognitive fatigue. It enhances mental sharpness, alertness, and sustained attention, making it ideal for tasks requiring high concentration.

### Protects Brain Health & Longevity

NeuroGenic contains neuroprotective compounds that help defend against oxidative stress, inflammation, and age-related cognitive decline. It supports *APOE*, *BDNF*, and *DRD2* gene expression, which play crucial roles in neural repair and cognitive resilience.

### **Boosts Brain Energy & Blood Flow**

By enhancing cerebral circulation and mitochondrial function, NeuroGenic improves oxygen and nutrient delivery to the brain. This supports sustained cognitive endurance, helping to combat mental fatigue and optimize brain metabolism.

### **Balances Mood & Stress Response**

NeuroGenic helps regulate stress-related neurotransmitters, promoting emotional stability and mental resilience. By supporting a balanced nervous system, it enhances focus under pressure while reducing the impact of stress on cognitive function.



## Gene Spotlight

Cognitive function and neural resilience are governed by a complex network of genes that regulate neurotransmitter balance, synaptic plasticity, and neuroprotection. These genes influence neural signaling, neurotrophic factor expression, and oxidative stress response, all of which are critical for maintaining memory, focus, and mental clarity. Proper regulation of these pathways supports synaptic connectivity, cerebral blood flow, and cognitive endurance, ensuring optimal brain health and neuroplasticity. By promoting the healthy expression of these genes, NeuroGenic helps sustain mental performance, stress resilience, and long-term neurological function.

## Genetic Interactions

### ***BDNF* (Brain-Derived Neurotrophic Factor) Gene**

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The *BDNF* gene produces a protein that helps nerve cells survive. This protein is a member of the neurotrophin family of growth factors, and is found in the brain, spinal cord, and peripheral blood cells. BDNF is important for the development and maintenance of normal brain function, and regulates the growth and survival of neurons.

### ***NGF* (Nerve Growth Factor) Gene**

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The *NGF* gene, or nerve growth factor gene, provides instructions for the production of a protein called nerve growth factor beta (NGF $\beta$ ). This protein is important for the development and survival of nerve cells, especially those that transmit pain, temperature, and touch sensations. Both NGF and the cholinergic system play important roles in learning and memory.<sup>2</sup>

### ***DRD2* (Dopamine Receptor D2) Gene**

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The *DRD2* gene encodes the D2 dopamine receptor, which regulates the synthesis, storage, and release of dopamine. The D2 dopamine receptor is a G protein-coupled receptor that is involved in reward-mediating pathways.

### ***APOE* (Apolipoprotein E) Gene**

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The *APOE* gene is a gene that helps produce a protein that carries cholesterol and other fats in the bloodstream. The *APOE* gene is the most common genetic risk factor for Alzheimer's Disease. The three main *APOE* alleles in humans are  $\epsilon 2$  (*APOE2*),  $\epsilon 3$  (*APOE3*), and  $\epsilon 4$  (*APOE4*). *APOE*- $\epsilon 4$  is a major risk factor for Alzheimer's Disease increasing the risk of developing the disease by up to 15 times.

### ***TPH2* (Tryptophan hydroxylase 2) Gene**

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The tryptophan hydroxylase 2 (*TPH2*) gene is a member of the pterin-dependent aromatic acid hydroxylase family. The protein encoded by this gene catalyzes the first step in the biosynthesis of serotonin, a hormone and neurotransmitter. *TPH2* is the rate-limiting enzyme in the synthesis of serotonin in the brain.

### ***COMT* (Catechol-O-methyltransferase) Gene**

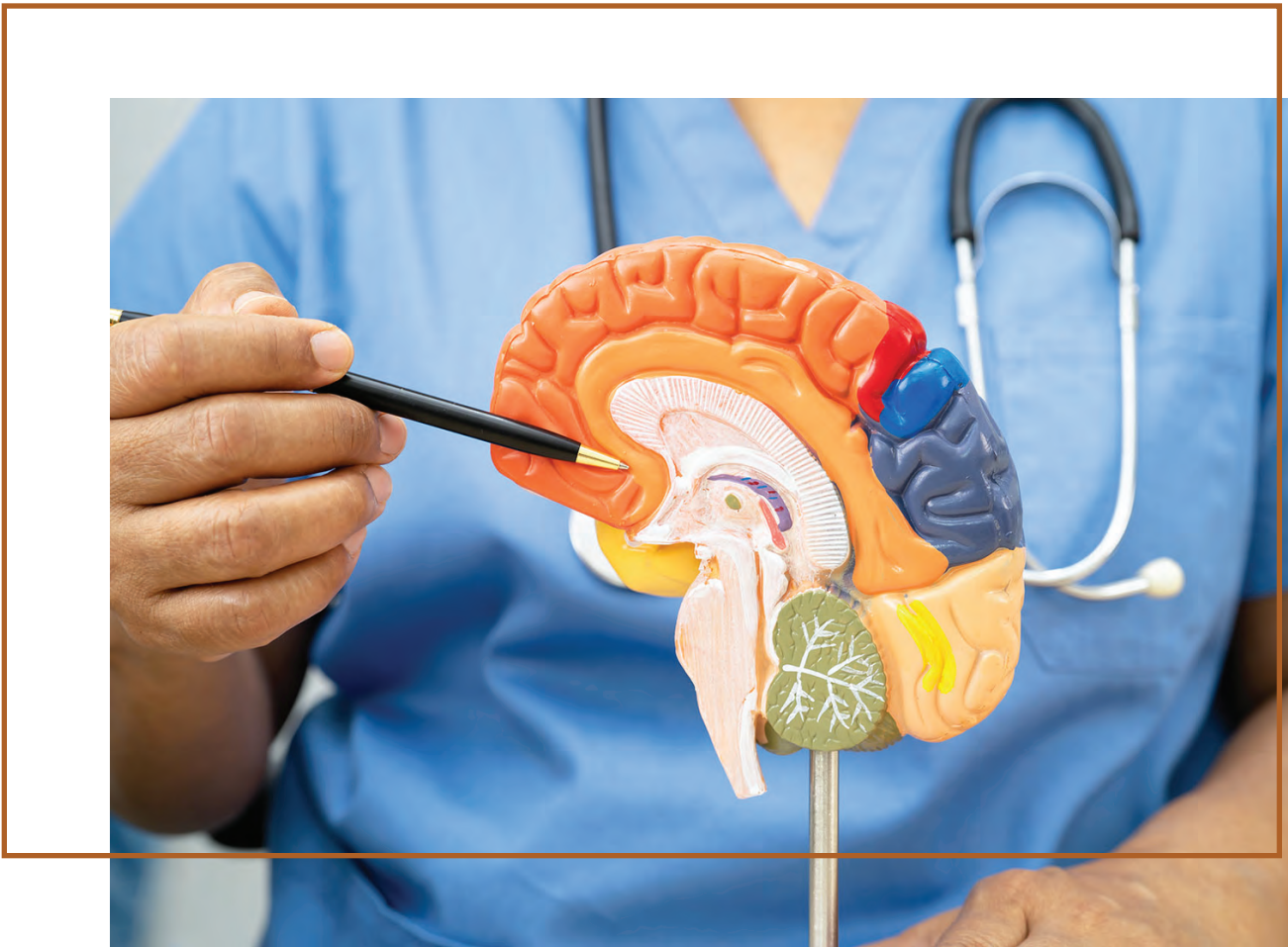
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The *COMT* gene produces an enzyme that metabolizes catecholamine neurotransmitters, including dopamine and epinephrine. The *COMT* gene regulates dopamine levels in the prefrontal cortex, which are involved in working memory and executive functioning.



## How NeuroGenic Works

NeuroGenic works by enhancing neurotransmitter function, synaptic plasticity, and neuroprotection. It supports acetylcholine metabolism, dopamine balance, and key cognitive genes like *APOE* and *BDNF* to improve memory, focus, and mental clarity. By boosting cerebral blood flow, mitochondrial energy, and antioxidant defenses, it helps protect against oxidative stress, inflammation, and cognitive decline, ensuring sustained brain health and performance.



## Key Ingredients

### Huperzine A

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Huperzine A is a natural acetylcholinesterase inhibitor found in the moss *Huperzia serrata* that has been used in Chinese medicine for centuries. It has gained popularity as a nootropic to enhance memory, and is highly regarded for its neuroprotective properties.<sup>3,4</sup>

### Noopept

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Noopept is a cognitive-boosting compound. It increases expression of both *BDNF* and *NGF* genes, making it supportive of normal memory retrieval and memory consolidation.<sup>5</sup> It has shown beneficial effects on cognitive functions in mild cognitive impairment associated with *APOE ε4*.<sup>6</sup>

### *Polygala tenuifolia*

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Also known as Yuan Zhi in Chinese Medicine, it is rich in triterpene saponins, including onjisaponins and polygalasaponins, and it shows protective effects on the central nervous system, commonly used for memory dysfunction, insomnia, and neurasthenia.<sup>7-9</sup> It has been shown to improve learning and memory via increasing *BDNF* (Brain Derived Neurotrophic Factor) expression.<sup>9,10</sup> Onjisaponins in *P. tenuifolia* enhance production of NGF (nerve growth factor), a protein that helps neurons grow, survive, and maintain themselves.<sup>11</sup> *P. tenuifolia* increases GABA and decreases levels of dopamine and *DRD2* expression, which can provide a calming effect on the nervous system.<sup>12</sup>

### DMAE Bitartrate

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DMAE Bitartrate (Dimethylaminoethanol Bitartrate) is a cholinergic compound that supports neurofunction, cognition, and brain health by enhancing acetylcholine synthesis and neurotransmission. It has been used to treat mild cognitive impairment and is believed to increase choline levels, aiding in memory and attention. DMAE may also genetically regulate catecholamine neurotransmitters such as dopamine (SLC6A3) and norepinephrine (SLC6A2), which contribute to mood and focus. Additionally, it has shown potential in modulating adrenergic responses, influencing neuronal signaling pathways. These properties make DMAE a potential cognitive enhancer, particularly for age-related cognitive decline.<sup>13–16</sup>

### *Phellodendron amurense*

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Also known as Cork Tree, a traditional Chinese botanical, *Phellodendron amurense* has shown promising neurological benefits, particularly in neuroprotection and memory enhancement. It protects against neurotoxicity by modulating cell viability and reducing apoptosis, making it a potential treatment for Alzheimer's disease. Additionally, its main alkaloid, berberine, improved memory deficits in rats by enhancing cholinergic activity and reducing pro-inflammatory cytokines in the hippocampus.<sup>17</sup> The extract also exhibits strong anti-inflammatory and antioxidant effects, further protecting neurons from damage related to oxidative stress.<sup>18</sup>

### ***Gastrodia elata***

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*Gastrodia elata*, commonly known as Tianma, is a traditional herbal medicine widely used in East Asia for neurological health. Research suggests it has neuroprotective properties, safeguarding neuronal cells and aiding brain recovery by reducing oxidative stress and inflammation, and regulating apoptosis pathways. Additionally, it has been explored for its potential role in neurodegenerative disease treatment, offering promise in neuronal protection and brain function recovery in preclinical models. Studies also indicate its potential to enhance cognitive function, with evidence showing it may improve spatial memory and maintain hippocampal balance.<sup>19,20</sup>

### **Vinpocetine**

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Vinpocetine, a compound derived from the periwinkle plant, supports neurocognitive health by enhancing cerebral blood flow, neuroprotection, and neurotransmitter function. It acts as a vasodilator, through inhibition of phosphodiesterase-1 (PDE1), leading to increased cyclic GMP levels and subsequent vasodilation, improving oxygen delivery to the brain. Additionally, its antioxidant and anti-inflammatory properties help reduce oxidative stress and neuronal damage. Clinical studies also suggest benefits for vascular dementia, mild cognitive impairment, and Alzheimer's disease.<sup>21-23</sup>

### **N-Acetyl-L-Tyrosine**

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N-Acetyl-L-Tyrosine is a derivative of the amino acid L-tyrosine, which serves as a precursor to key neurotransmitters such as dopamine, norepinephrine, and epinephrine. These neurotransmitters are essential for regulating mood, cognitive functions, and the body's response to stress. Tyrosine effectively enhances cognitive performance, particularly in short-term stressful and/or cognitively demanding situations.<sup>24</sup>

### Alpha-GPC (Glyceryl Phosphoryl Choline)

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Alpha-GPC is a compound that enhances neurocognitive health by increasing acetylcholine levels, a neurotransmitter vital for memory, learning, and neuroplasticity. It supports neuronal growth and repair, protects against oxidative stress, and may slow cognitive decline in Alzheimer's disease and dementia. Research suggests it improves memory retention, focus, mental clarity, and brain metabolism by boosting blood flow and oxygen delivery.<sup>25,26</sup>

### *Magnolia officinalis*

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*Magnolia officinalis*, rich in bioactive compounds like magnolol and honokiol, has shown neuroprotective effects that may benefit neurocognitive health. Research suggests it can reduce neuroinflammation, protect neurons, enhance cognitive function, and disrupt beta amyloid plaques, particularly in conditions like Alzheimer's disease and white matter injury. Studies indicate that magnolol improves cognitive deficits, while honokiol supports myelin repair and reduces cognitive decline.<sup>27-29</sup>

### Phosphatidylserine

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Phosphatidylserine is crucial for brain health, supporting memory, cognition, mood, and neuroprotection by maintaining neuronal integrity, enhancing neurotransmission, and mitigating oxidative stress. *PTDSS1* and *PTDSS2* encode phosphatidylserine synthases, essential for phosphatidylserine biosynthesis, with deficiencies linked to neurodegeneration. The *FOXO3* gene, homologous to *DAF-16*, regulates oxidative stress responses, apoptosis, and longevity, contributing to cognitive resilience and its neuroprotective properties. Dysregulation of these genes is associated with cognitive decline and age-related neurological disorders, underscoring the significance of PS metabolism in brain function.<sup>30-32</sup>

### ***Bacopa monnieri***

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Also known as baobab tree fruit, *Bacopa monnieri* is a nootropic herb that enhances cognition, memory, and neuroprotection by modulating key neurotrophic factors and reducing inflammation. It upregulates *BDNF* and *NGF* expression, promoting synaptic plasticity and neurogenesis, while also interacting with ApoE receptors, influencing synaptic modulation. It enhances BDNF-TrkB signaling for hippocampal neurogenesis and reduces neuroinflammation via NF- $\kappa$ B downregulation. Bacopa has also been shown to indirectly influence dopamine and serotonin systems, and its *CREB* phosphorylation activity further supports memory formation. These effects make Bacopa a promising potential therapy for cognitive decline and neurodegenerative diseases.<sup>33-37</sup>

### **Skullcap**

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*Scutellaria lateriflora* (American Skullcap) is a neuroprotective herb with anxiolytic and antioxidant properties, attributed to its flavonoids baicalein, baicalin, wogonin, and scutellarin. It is reported to reduce anxiety and oxidative stress, while protecting DNA and regulating flavonoid biosynthesis genes like *SIPAL*, *SIC4H*, *SI4CL*, *SICH5*, and *SICHI*, all contributing to its therapeutic effects. Scutellarin also modulates the JNK/Caspase-3 pathway, suggesting a potential role in neurodegenerative and oncological treatments, while Skullcap's inhibition of prion protein aggregation highlights its neuroprotective potential.<sup>38-41</sup>

### ***Centella asiatica***

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Also known as Gotu Kola. *Centella asiatica* is a neuroprotective and cognitive-enhancing herb that supports memory, mood, focus, and overall brain health. It enhances mitochondrial function, reduces oxidative stress, and promotes synaptic plasticity through *NRF2*-regulated antioxidant pathways. It also modulates BDNF levels, improving neurogenesis and synaptic density. Additionally, it has been reported to influence NAD<sup>+</sup>, purine, and glycerophospholipid metabolism, which help maintain brain energy balance. Active compounds like asiatic acid and madecassoside reduce neuroinflammation and amyloid- $\beta$  pathology, making it a potential therapeutic option for neurodegenerative conditions. *Centella asiatica* also promotes early neuronal differentiation, axonal outgrowth, and synaptic formation, further highlighting its neurotrophic benefits.<sup>42-46</sup>

### ***Ginkgo biloba***

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*Ginkgo biloba* is a nootropic herb with neuroprotective and cognitive-enhancing properties, improving memory, attention, and mood by modulating neurotransmitter levels on a genetic level, including dopamine through *DRD2*, noradrenaline via *SLC6A2*, serotonin through *SLC6A4*, and acetylcholine via *CHRNA4* in the prefrontal cortex. It reduces oxidative stress via *SOD1*, *SOD2*, *CAT*, and *GPX1*, inhibits beta-amyloid accumulation via *APP* and *BACE1*, and enhances cerebral blood flow, making it beneficial for neurodegenerative conditions such as Alzheimer's disease. *Ginkgo biloba* upregulates *BDNF*, *HMOX1*, and mitochondrial genes like *MT-CO3* and *MT-ND1*, supporting neuroprotection and synaptic function. Additionally, Ginkgo modulates stress response genes, like *HSPA1A* and *NFKB1*, and enhances cholinergic signaling by regulating the expression of genes like *CHAT* and *CHRNA7*, which contributes to cognitive resilience and mental clarity.<sup>47-51</sup>

## Alpha-Ketoglutaric Acid

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Alpha-ketoglutaric acid is a key metabolite in the tricarboxylic acid (TCA) cycle that supports neurofunction, cognition, and brain health by enhancing mitochondrial activity, reducing oxidative stress, and regulating neurotransmitter balance. It has been shown to protect mitochondrial DNA from damage and modulate the alpha-ketoglutarate dehydrogenase complex, a crucial enzyme for ATP production that is often impaired in neurodegenerative diseases. Alpha-ketoglutaric acid also influences glutamate metabolism by affecting the expression of genes like *GLUD1*, *SLC1A3*, and *SLC1A6*, which helps regulate excitotoxicity. Additionally, it has been reported to reduce lipid peroxidation, prevent seizure-induced mitochondrial dysfunction, and extend lifespan by reducing neuroinflammation and supporting metabolic balance.<sup>52-55</sup>

## Uridine Monophosphate

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Uridine monophosphate is a critical nucleotide that supports neurofunction, cognition, and brain health by promoting synaptic plasticity, neurotransmitter regulation, and membrane phospholipid synthesis. It has been shown to enhance cholinergic signaling via *CHAT* and *CHRNA7*, increase dopamine release through *SLC6A3*, and support neurite outgrowth by stimulating nerve growth factor-mediated pathways. Uridine monophosphate also influences RNA metabolism and synaptic protein synthesis, leading to improvements in learning, memory retention, and neuroprotection. Additionally, it is reported to increase cytidine diphosphate-choline synthesis, which is essential for phosphatidylcholine production, a key component of neuronal membranes. These effects make uridine monophosphate a potential therapeutic agent for cognitive enhancement and neurodegenerative conditions.<sup>56-60</sup>



## Warnings/Contraindications

If taking **blood thinners, anti-hypertensives, sedatives, acetylcholinesterase inhibitors, or dopamine-modulating drugs**, consult a healthcare professional before taking NeuroGenic.

\*\*It is always recommended that you consult your practitioner prior to adding any new supplement to your regimen if you are pregnant, breastfeeding, experiencing renal failure, undergoing an organ transplant(s), managing diabetes with insulin, or are taking medication(s) for any pre-existing conditions.\*\*

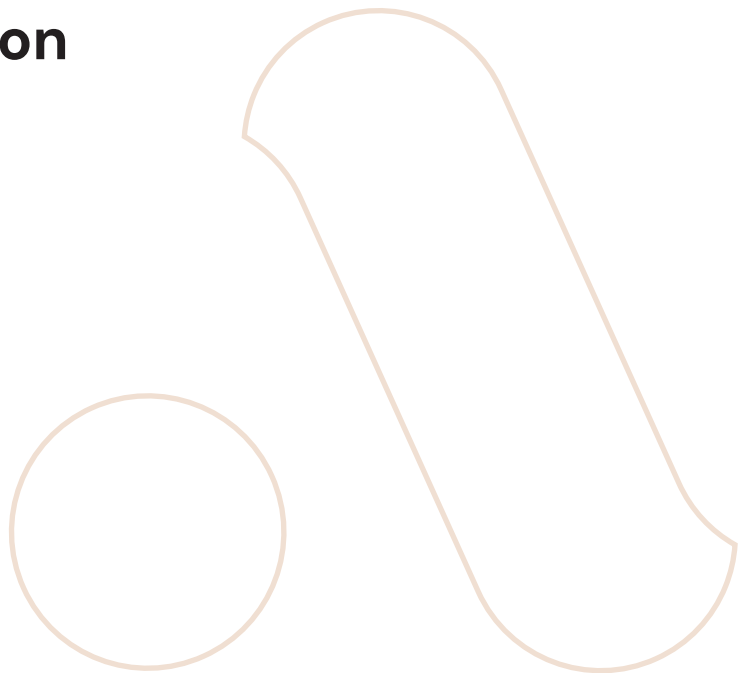
## Safety

All ingredients are tested before use for:

- Pathogenic microbial contaminants
- Heavy metals and/or chemical contaminants
- Purity

## Additional Information

- Gluten Free
- Dairy Free
- Vegan
- No Sugar
- Non-GMO
- cGMP Facility



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