

# Brainiac - Now Available in Tincture

## SUPER HIGH POTENCY - 1:3 EXTRACTION POTENCY

Brainiac, our highly successful product for ADD/ADHD, is now available in tincture for easy administration to children and variable dosing programs.

Brainiac in capsule form is usually administered to children who are old enough to take a capsule. However, younger children with ADD/ADHD who will benefit from Brainiac are not able to swallow capsules. They can now take Brainiac in tincture form, and the dosage can be adapted to their age.

We have had great feedback on the effects of Brainiac in relieving ADD/ADHD since launching it in 2014. This is thanks to the unique combination of ingredients that target specific therapeutic needs in ADD/ADHD. The 3 ingredients are Artichoke + Vinca Minor + Passionflower, provided in full-spectrum organic herbal extracts.

This TRIAD formula of very effective nervous system and brain tonics has proven itself over the years with consistently good results. For more on the science behind these ingredients continue reading the additional information below.



### Ingredients:

Vinca minor (Lesser Periwinkle)  
Passiflora incarnata (Passion Flower)  
Cynara scolymus (Globe Artichoke)

1:3 Full-spectrum herbal tinctures  
(contains 70% alcohol).

**Pack Size:** 50ml

**Also available in 100ml**

For orders / enquiries, please contact  
Centered Secrets Sales & Distribution:

084 841 8147 / 016 341 6980

[orders@centeredsecrets.co.za](mailto:orders@centeredsecrets.co.za)

## How do the three ingredients work to support optimal cognitive function?

### ARTICHOKE

Artichoke extract is a natural PDE4 inhibitor in the brain. Excess PDE4 degrades cAMP. cAMP is important for neural signaling within brain cells.

As a secondary messenger in neurons, cAMP produces proteins needed for neuron and synapse growth. This process is called Long-Term Potentiation (LTP). LTP is the process where synaptic connections get stronger in response to electrical stimulation in the brain. This process happens naturally through life experience. It's a critical part of synaptic plasticity. Brain structure changes over time through synaptic plasticity and is how experience is recorded through learning and memory. When PDE4 increases, cAMP is depressed, and learning, memory, and mood suffer.

#### Artichoke extract helps:

**Neurotransmitters.** Artichoke extract inhibits PDE4 in the brain. This stabilizes and increases cAMP, which boosts learning, motivation, memory, and mood.

**Neurogenesis.** Artichoke extract helps generate growth of dendrites on neurons and helps reconstruct synapses (the junctions where nerve cells communicate with other neurons), boosting memory and restoring neural networks.

**Reduce Inflammation.** Artichoke extract helps reduce inflammation in the brain. By preventing the over-production of cytokines, and taming the flames of inflammation in neurons, it prevents memory loss and neurological dysfunction.

**Liver Detoxification:** Many cognitive issues and ADD issues originate from poor phase 1 and 2 liver detoxification of endotoxins that interfere with neuro-signaling and increase inflammation. Increased clearance of toxins improves calm, clear thought and memory. Improving liver function also stabilises blood sugar levels, which the brain primarily runs on.

**Food Allergy and Gut lining Support:** Many cognitive issues originate from food allergies. Artichoke has been proven to reduce food allergy and improve overall digestion.

### VINCA MINOR

Vinpocetine was first isolated from the periwinkle plant in 1975 by chemist Csaba Szántay. The Hungarian pharmaceutical company Gedeon Richter began manufacturing Vinpocetine in 1978. Vinpocetine continues to be one of the company's top-selling drugs worldwide.

Vinpocetine is used as a prescription drug in Japan, Europe, Mexico, and Russia for the treatment of cognitive and cerebrovascular disorders. In the USA and Canada, Vinpocetine is sold as an OTC dietary supplement.

We use a concentrated full-spectrum extract of Vinca minor. The main active alkaloid of Vinca minor is Vincamine, which is similar in structure and range of applications to Vinpocetine. One of the benefits of a full-spectrum extract is that the full complement of herbal actives leads to a far lower risk of side effects than an isolated chemical.

As a nootropic, Vincamine & Vinpocetine are used primarily to increase cerebral blood flow.

**Cerebral Circulation.** Vinpocetine helps boost blood flow to and within the brain. Improving the flow of oxygen and glucose that feed ATP to power brain cells. Improving alertness, cognition, concentration, memory, and mood.

**Neuroprotectant.** Vinpocetine blocks the accumulation of sodium in neurons, reduces the toxic effects of oxidative stress, inhibits the enzyme PDE1 and boosting blood flow, scavenges free radicals, and protects neurons from glutamate and NMDA toxicity.

**Neuroplasticity.** Vinpocetine inhibits the enzyme PDE1 which can increase cAMP and cGMP. These cyclic nucleotides, in turn, activate a series of kinases that phosphorylate the transcription factors cAMP response element-binding protein (CREB) and serum response factor (SRF), leading to the expression of plasticity-related genes. This boosts neuroplasticity enhances cognition and memory.

## PASSIONFLOWER

GABA Support -The Great Stabilizer

Passionflower (*Passiflora incarnata*) is a herb that is approved by Commission E to treat nervousness and insomnia. Increasing GABA has a stabilizing effect on the whole brain rhythm.

GABA modulation is central to allowing a calm, focused, centered mind. This effect works in synergy with Vinca and Artichoke.

You don't have to have a serious medical problem to have a GABA deficiency. Bacteria in our gut produce GABA, so any time you're changing the bacterial composition of your gut, that can affect GABA production — for example, taking antibiotics.

There's also a connection between GABA and GAD-65 enzymes. Gluten antibodies can disturb the connection, so eating too many starchy carbs can cause a GABA deficiency.

Finally, a failure to manage everyday stress can lead to GABA deficiency. Our survival instinct causes us to be alert to noises and sounds around us. But in modern life, that instinct can work against us.

Modern urban life is fast-paced, noisy, and stressful. There's a constant stream of pressure from the outside world that uses up our stores of GABA too quickly.

## THE SCIENCE BEHIND EACH BOTANICAL:

### How does Artichoke extract work in the brain?

Artichoke extract boosts brain health and function in several ways. But two, in particular, stand out.

#### **1. Artichoke extract inhibits PDE4 which boosts cAMP activity in brain cells.**

cAMP helps stimulate the production of CREB (cAMP response element-binding protein). An increase in CREB enhances Long-Term Potentiation (LTP). LTP is the connection between brain synapses. Strengthening in response to stimulation by neurons on either side, which is a major component in both learning and memory. Memories are stored at a cellular level and retrieved at a cellular level. This well-traveled pathway is strengthened by boosting cAMP with Artichoke extract.

This improvement in memory was demonstrated by researchers at the University of Genoa in Italy. Rats and mice were used in this study. The PDE4 inhibitor used was a chemical derivative of rolipram. (Rolipram cannot be used in human patients because it causes vomiting). Results of the study showed this derivative enhanced memory function even at low doses, acting on the same neural pathways as Artichoke extract in humans.

#### **2. Artichoke extract reduces brain inflammation.**

Researchers studied the effect of Artichoke on immune system cells in the brain called microglia.

Microglia produce cytokines in response to infections and toxins. Over-production of cytokines results in inflammation and the destruction of neurons. In this study, brain cells in mice were pretreated with Artichoke before being exposed to a substance that induced inflammation in brain cells. The same type of inflammation humans experience from daily exposure to toxins. The study showed that Artichoke offered protection against brain inflammation and its consequences, including problems with cognition and memory. The research team concluded

that Artichoke “may be useful for mitigating neural inflammation”.

Research from hundreds of studies have shown that Artichoke extract can:

Improve memory by inhibiting PDE4 in the brain (which boosts cAMP activity)  
Boost dopamine levels in the brain  
Tame inflammation in the brain

Artichoke extract combined with Vinca minor is even more effective. Because not only are you helping cAMP activity in the brain, you’re boosting it with Vinca. Inhibiting PDE4 and boosting cAMP also makes the effect of normal dopamine production more effective. Boosting processes in this stream of chemical reactions in the brain increases learning and memory, without the side effects of stimulating dopamine production through the use of drugs like Adderall or Ritalin.

#### **Artichoke Extract Improves Memory:**

Microglia cells are immune cells in your brain and spinal cord. They produce signaling molecules called cytokines. These cytokines are cell signaling molecules that aid communication between cells in immune responses.

When microglial cells are not regulated, they produce excessive levels of cytokines. Inflammatory cytokines kill neurons, leading to cognitive aging and neurodegenerative diseases like Alzheimer’s. They are responsible for producing symptoms like sleepiness, loss of appetite, memory deficits, and depression.

Researchers at the University of Illinois at Urbana–Champaign worked with a group of young and older mice. The mice were fed a control diet or an Artichoke-supplemented diet for 4 weeks.

The research team found that Artichoke helped regulate microglial cells and stopped them from producing excess cytokines. This reduced inflammation in the brains of aged mice and restored memory to levels observed in younger mice.

Researchers at the West Virginia University Health Sciences Center in the USA worked with tame and wild-type mice. Suppressing PDE4 in the mice enhanced memory and increased the growth of new neurons in the hippocampus of the brains in these mice.

#### **Artichoke Extract Improves Mood:**

Users report that Artichoke extract boosts mood. Researchers at Kurume University School of Medicine in Japan demonstrated in the lab how this boost in mood occurs. When dopamine D1 receptors in the prefrontal cortex of the brain malfunction, psychotic symptoms and other nasty symptoms show up, including schizophrenia. The study group found that dopamine D1 receptors signal through the cAMP cascade, which is modulated by PDE4 enzymes.

In this study, researchers inhibited PDE4 production in the lab, showing that an increase in dopamine resulted in influencing cognitive function, thereby proving the antipsychotic action of suppressing PDE4.

#### **How does Vinpocetine work in the brain?**

Vinpocetine boosts brain health and function in several ways, but two, in particular, stand out.

1. Vinpocetine boosts cerebral circulation. Your brain only accounts for about 2% of your body weight, but it consumes about 20% of the oxygen and nutrients circulating in your blood. This is why strong, healthy cerebral blood flow is so critical to your brain health and cognitive performance.

2. Vinpocetine inhibits an enzyme called PDE1 (phosphodiesterase type 1) while reducing calcium levels in brain cells. When both of these are elevated, the smooth muscle in blood vessels contract, narrowing the diameter of blood vessels, restricting blood flow to that area of the brain.

You may be familiar with PDE5 inhibitors like Viagra® which work to dilate blood vessels and maintain healthy blood flow to the penis. Vinpocetine has a similar mechanism of action in the brain.

In two separate clinical studies, chronic ischemic post-stroke patients were treated with either a single infusion or daily infusion of Vinpocetine for 2 weeks. Vinpocetine increased cerebral glucose uptake and glucose metabolism in both the stroke region of the patient’s brains as well as the intact brain tissue.

Patients in the 2-week long treatment also showed increased cerebral blood flow especially in the thalamus, basal ganglia and visual cortex regions of the brain.

#### **Vinpocetine is an anti-inflammatory:**

Vinpocetine prevents the upregulation of NFκB (nuclear factor kappa-light-chain-enhancer of activated B cells) by TNFa (tumor necrosis factor alpha). This sounds a little complicated but has serious implications in the development of Parkinson’s and Alzheimer’s disease. Here’s how it works:

NFκB is a protein complex that controls transcription of DNA, cytokine production (signaling protein) and cell survival. TNFα is a signaling protein (cytokine) involved in inflammation produced by neurons. Vinpocetine inhibits this action.

Vinpocetine also reduces the TNFα-induced expression of the mRNA of pro-inflammatory molecules such as interleukin-1β, monocyte chemoattractant protein-1 (MCP-1), and vascular cell adhesion molecule-1 (VCAM-1).

Researchers have found that Vinpocetine prevents this inflammatory response at the cellular nucleus level. And this mechanism of action is independent of Vinpocetine's action on PDE1.

This is a very big deal because TNFα contributes to the neuronal cell death found in Parkinson's disease. There is growing evidence that the accumulation of amyloid-β protein leads to an upregulation of interleukins and TNFα that contributes to neurodegeneration leading to Alzheimer's disease.

Poor cerebral circulation causes a domino effect in the brain affecting many critical processes. Memory, cognition, and decision-making all suffer as a result. Vinpocetine is one of the most researched nootropics on the planet. It was introduced to clinical practice in Hungary in 1978 for the treatment of cerebrovascular (brain blood flow) disorders and related symptoms.

Since then Vinpocetine has become a "reference compound" in pharmacological research of cognitive deficits caused by hypoxia (oxygen deficiency), ischemia (inadequate blood supply) and research into cyclic nucleotides (cAMP and cGMP).

Vinpocetine's mechanism of action in the brain includes:

- Increasing brain blood circulation and oxygen utilization
- Increased tolerance for hypoxia and ischemia
- Anticonvulsant activity
- Inhibiting the PDE1 enzyme
- Increasing the pliability of red blood cells
- Inhibiting the aggregation of platelets (blood clots)

Hundreds of studies in animals and humans have shown Vinpocetine can repair and reverse the effects of damage caused by strokes. Vinpocetine can prevent the inflammation and damage by free radicals that can lead to neurodegenerative diseases like Parkinson's and Alzheimer's.

Vinpocetine can improve glucose and oxygen supply to critical brain cells through increased blood flow, improving cognition, concentration, mental agility, anxiety, depression, and memory.

Vinpocetine's effect on short-, working- and long-term memory can be profound. Remembering names, numbers and life events becomes easier.

At work or in school, Vinpocetine can assist in learning and helping your brain commit it to memory. You should feel a significant difference in your ability to focus at work.

And like any nootropic, Vinpocetine is not going to turn back the clock 30 or 40 years. But it will help to keep your brain functioning more smoothly.

### **Vinpocetine Improves Memory**

12 healthy female volunteers were treated with 40 mg Vinpocetine 3-times per day, or a placebo, for 2 days in this randomized double-blind crossover study. On day 3 of the study, and one hour following morning dosage of Vinpocetine, the women completed a battery of psychological tests. The study found that those who used Vinpocetine had a significant improvement in memory when compared to placebo.

### **Vinpocetine Repairs Long-Term Potentiation**

If you have been having problems with long-term memory lately, this study is for you.

Researchers produced a "medial septal lesion" on rats in the lab. The medial nuclei are an area of the brain composed of medium-sized neurons. These neurons receive signals from different areas of your brain including your hippocampus. A lesion cuts off communication with an important memory-formation area of your brain. The effect of a lesion in this study was on hippocampus function and the long-term potentiation pathway.

The scientists found that damage in this area of the brain negatively affects long-term potentiation. The rats were then given either physostigmine, piracetam, Vinpocetine or Hydergine one hour after the lesion, and once-a-day for 6 days after the operation.

The study found that all of the drugs used in this study produced complete restoration of long-term potentiation, and showed that Vinpocetine is one of the most effective and least expensive ways to restore long-term potentiation and long-term memory formation.

### **Vinpocetine Enhances Cognitive Performance**

A placebo-controlled, randomized double-blind trial was conducted at the University of Surrey with 203 dementia patients using Vinpocetine. Patients received either 10 mg of Vinpocetine 3-times per day, 20 mg of Vinpocetine 3-times per day or a placebo 3-times per day for 16 weeks.

The patients were assessed on cognitive performance and measure of quality of life, including depression. Both Vinpocetine groups experienced a significantly improved cognitive performance score compared to placebo.

The study concluded that Vinpocetine was useful in the management of patients with symptoms of dementia. There was no statistical difference in cognitive scores with 10 mg or 20 mg of Vinpocetine.

### **How does Passion Flower work in the brain?**

Passion Flower helps to modulate GABA levels. A 2016 clinical trial found that Passion Flower decreased anxiety and improved memory in rats. These effects could be due to *P. incarnata* affecting GABA levels.

In a clinical trial on 34 children with ADHD, passionflower was as effective as methylphenidate (Ritalin). Children who took the herb experienced fewer side effects such as anxiety and lack of appetite. A small sample size questions the validity of these results though.

### **Passion Flower Relieves Anxiety:**

In general, there is good evidence to suggest that *P. incarnata* helps relieve anxiety symptoms.

Several clinical studies show that passionflower has anxiety-calming (anxiolytic) effects. In one clinical trial, researchers found that *P. incarnata* had results similar to antianxiety medication in mice. Two other clinical trials in animal models found that it had sedative effects.

In a clinical trial on 36 patients with general anxiety, passionflower extract (1-month treatment) was as effective as oxazepam, an anti-anxiety drug. What's more, patients who took the herb performed better in their jobs.

In 30 patients, doctors added passionflower to standard treatment with an SSRI drug, sertraline. The patients' symptoms improved without significant side effects.

In a larger clinical trial (182 patients), an herbal mixture with Passion Flower relieved anxiety in 43% of the patients (vs. 25% placebo). Other herbs likely contributed to the results

.

Two reviews analyzed the data from 25+ clinical trials and confirmed significant anti-anxiety effects of purple passionflower.

However, conclusions about the degree to which passionflower works vary from study to study. One review found it to have a significant sedative and calming effect. Other researchers recommend it as an add-on to traditional anxiety treatments.

The good news is that Passion Flower is incredibly safe, and there's very little to worry about in terms of dosages or building a tolerance.

For orders / enquiries, please contact  
Centered Secrets Sales & Distribution:  
084 841 8147 / 016 341 6980  
[orders@centeredsecrets.co.za](mailto:orders@centeredsecrets.co.za)