GOLDEN BRAIN SOLID DRINK
MEMORY | FOCUS | ANTI-AGING SUPPORT
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Do you use your brain frequently and often work overtime? Have you found yourself tired and unable to concentrate? Does the elderly in your family often forget things? Is your child lack of concentration and performing poorly at school?

Memory decline may start earlier than you think

Study has found that human brain function began to decline from the age of 20, and many people over 40 years old started to feel the decline of memory, which is especially noticeable around the age of 65. The decline in memory and the gradual loss of attention span are the most feared problems in our aging process.
Human Brain Function and Memory Decline
Brain

Brain is the most important and complex organ in our body. According to the “The Yellow Emperor’s Classic of Internal Medicine”, brain is the ruler of the body and where the spirit light concentrates.

As the general commander of the human body's major systems, brain regulates vital functions such as breathing and heartbeat, basic living functions including urinating, sleeping or eating, and complex functions such as thinking, memorizing, learning and speaking. To perform a seemingly simple movement, our brain has to perform a series of complex calculations to ensure that the task is being carried out accurately.
Memory is one of the main functions of the brain. During the process of memory storage, nerve cells in the cerebral cortex are actively engaged in processing, recording and preserving what a person has been experiencing. The stored memories can be retrieved when needed.

As we get older, a series of changes occur in the brain's tissue morphology and biochemistry, leading to a decline in brain function. This process is known as brain aging. **Brain aging is mainly characterized by a decline in memory.**

A study published in the journal Psychology and Aging by Denise C. Park in 2001 has shown that **the age at which memory decline begins is around 20 years old.** The research was carried out by investigating the memory function of 345 adults between the ages of 20 and 90 and found that people experienced a continuous and regular decline in memory from their mid-20-30s.

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**Brain Memory**

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The present researchers believe that **brain aging** is an early symptom of neurodegenerative diseases and may be one of the important mechanisms of Alzheimer's disease. Hence, prevention and delaying the progress of brain aging are necessary to improve aging seniors’ quality of life.
Impact of Memory Decline

Memory is very important to the quality of our lives. If a person often forget things, it will have a great impact on his life and work. So, what are the effects of a decline in memory function?

- Forgetful
- Weak mental health
- Fatigue
- Loss of interest in life
- Poor language expression
- Confusion, loss of logical thinking
- Mood swings
- Weakened immune system
- Insomnia, excessive dreaming
02 Product Introduction
Golden Brain Solid Drink

Effectively improve memory, focus and clarity

Our product is formulated for improving brain function decline due to aging and overworking of the brain. Our formula possesses strong antioxidant properties which help to protect the brain and prevent nerve degeneration. The bioactive substances in our formula work synergistically and effectively in alleviating memory impairment and ameliorating memory decline.

- Combined power of 4 safe and natural ingredients
- Promotes enhanced memory and focus
- Promotes oxygen and blood flow to the brain
- Promotes and enhances nerve cell activities
- Anti-oxidant & Anti-aging
- Reduces brain fatigue
Product Ingredients

Blueberries
Blueberry is a natural fruit that is rich in antioxidants and vitamin C. It can reduce the risk of heart disease and prevent Alzheimer's disease.

Flammulina velutipes
Is known as “golden needle mushroom”, the fourth most popular edible mushroom in the world. It is also called “Smart Mushroom” because it promotes children’s physical growth and cognitive development.

Pleurotus eryngii
Is known as King Oyster mushrooms, is a dietary mushroom which has a large stem that confers a relatively 'meaty' or 'hearty' flavour. It contains an assortment of bioactive molecules and is seen as a medicinal mushroom.
Flammulina velutipes

1. According to the records, F. velutipes was cultivated in China as early as 800 AD. It is a kind of mushroom for both food and medicine.

2. F. velutipes is highly nutritious and rich in proteins (including the 18 amino acids, especially lysine and arginine, which promotes growth and development. The amount of lysine and arginine of FV is relatively higher than common mushrooms), unsaturated fatty acids, crude fiber, Vitamin B2, inorganic elements such as zinc, calcium, magnesium, potassium, etc.

3. F. velutipes has a variety of biologically active substances, of which Flammulina velutipes polysaccharide (FVP) is the main bioactive substance. FVP has therapeutic effects on regulating immunity, protecting liver, improving memory and antioxidant properties.
Biological Activities of F. velutipes

- **Memory and learning improvement**
  FVP has been reported to be beneficial in learning and memory capabilities. It improves learning and memory capabilities of cognitive impairment rats and aging mice, and promotes the consolidation and enhancement of learning and memory. Flammulina velutipes has a relatively high zinc content, which affects the activity of neurons and enhances memory.

- **Antioxidant, anti-aging and anti-fatigue**
  The polysaccharides and phenols from F. velutipes can effectively scavenge free radicals, show potent antioxidative action against lipid oxidation, demonstrating its role as a antioxidant and anti-aging agents. F. velutipes significantly reduces the concentration of lactic acid in rats after exercise, thus accelerating the rate of fatigue elimination.

- **Hepatoprotective activity**
  FVP enhances the scavenges of free radicals in the liver, subsequently inhibiting lipid peroxidation and intracellular release of intracellular alanine aminotransferase (ALT), thereby reducing hepatocyte death.
Biological Activities of F. velutipes

• **Cholesterol lowering**
  F. velutipes can help in cholesterol metabolism and absorption, reduce the damage of low density lipoprotein cholesterol (LDL) to blood vessels, thereby lowering the risk of cardiovascular diseases.

• **Anti-tumor and Immunomodulatory properties**
  FVP, glycoproteins etc of F. velutipes have inhibitory effects on various tumors. F. velutipes immunomodulating proteins (FIP) and polysaccharides stimulate immune cells to produce a variety of cytokines, effectively enhancing immunity and helps to prevent diseases.

• **Antimicrobial and anti-inflammatory**
  F. velutipes has certain inhibitory effects on Bacillus subtilis, Escherichia coli, Staphylococcus aureus and Salmonella.
Pleurotus eryngii polysaccharide (PEP), extracted from the fruit body, is the main active substance of Pleurotus eryngii. It has the physiological functions of scavenging free radicals, anti-oxidation, anti-virus, anti-tumor, enhancing immunity, lowering plasma cholesterol, lowering lipid levels and inhibiting microbial growth.

Pleurotus eryngii is rich in nutrients including carbohydrates, essential amino acids, vitamins, minerals such as calcium, magnesium, zinc and copper as well as polysaccharides.
**Biological Activities of Pleurotus eryngii**

**Enhances memory**
PEP can improve learning, memory and the antioxidant capacity of brain tissue in D-galactose aging mice model. A study from Japan showed that the extract of Pleurotus eryngii has estrogen-like improvement activity against depression-like behavior and memory impairment in ovariectomized rats.

**Protect liver & blood vessel**
PEP can inhibit the accumulation of lipids in foam cells, thereby lowering blood lipids and preventing atherosclerosis. Pleurotus eryngii chitin has a preventive effect on fatty liver. Pleurotus eryngii mycelium zinc polysaccharides can prevent hyperlipidemia and non-alcoholic fatty liver.

**Anti-oxidant & anti-fatigue**
Pleurotus eryngii polysaccharide extract has strong antioxidant properties, which ameliorates the damage of free radicals to cells, thereby delaying cell aging. PEP has anti-fatigue effect. It can improve hepatic glycogen and muscle glycogen reserve, and significantly prolong the pole climbing and exhaustive swimming time of mice.

**Regulates immunity & anti-tumor**
Proteins extracted from Pleurotus eryngii mycelium and fruit body can significantly inhibit the proliferation of various cancer cells and stimulate the proliferation of macrophages. PEP can activate T lymphocytes, stimulate antibody formation and enhance immunity.
Extraction Technology of Flammulina velutipes and Pleurotus eryngii polysaccharides

Advantages

- **High biological activity**
  Using ultrasonic and complex enzymatic hydrolysis, the bioactivities of FVP and PEP are maximally preserved.

- **High extraction yield and shorter extraction time**
  Ultrasonic and enzymatic extraction technology improve extraction yields and shorten extraction time.
Blueberries

- Blueberries are often referred to as "king of berries". Their fruits are rich in sugar, amino acids, dietary fiber, superoxide dismutase (SOD), vitamin C, vitamin E and vitamin A, as well as potassium, iron, zinc and manganese and other trace elements. In addition, it is rich in phytochemicals such as nicotinic acids and flavonoids.

- Blueberries, natural dark blue pigments containing fruits, are rich in a natural polyphenolic substance called anthocyanin. Anthocyanins are small molecules with strong water solubility and are easily absorbed by the body when taken orally. Anthocyanins is a powerful antioxidant, therefore, eating blueberries can have higher antioxidant capacity against aging, cancer and heart disease.
Biological Actitives of Blueberries

Protect eyes and enhance vision
The polyphenols and flavonoids from blueberries can promote the retinal rod cell growth, increase blood flow to the eye, and reduce eye fatigue. Anthocyanins in blueberries can promote the re-generation of rhodopsin in retinal cells, prevent severe myopia and retinal detachment, thereby improving vision.

Improve memory
Blueberries are loaded with antioxidants and these substances could help to improve brain function and reduce the risk of Alzheimer’s disease. Blueberries flavonoids and anthocyanins have been shown to improve short-term memory, motor and cognitive functions, and prevent age-related neurodegenerative diseases.

Protect liver
Blueberries prevent rat liver fibrosis via reduction of hepatocyte damage and lipid peroxidation. Blueberry can also mediate the expression of liver cancer-related genes, thereby protecting the liver.

Increase immunity
Blueberry anthocyanins can activate macrophages and reduce the damage of free radicals to serum immunoglobulin, thereby enhancing the body's immunity.

Protect cardiovascular system
Blueberry pectin and anthocyanidin prevent atherosclerosis and reduce the incidence of cardiovascular diseases by lowering cholesterol, preventing thrombosis and platelet aggregation induced by collagen and arachidonic acid.

Reduce the incidence of various cancers
The antioxidant properties of blueberries can help to inhibit the metastasis of cancer cells. Polyphenols in blueberries can effectively inhibit enzymes that promote the proliferation of cancer cells.
03 Mechanism of Action; Product Advantages
Mechanism of Action

**Increases antioxidant capacity in the brain**
Superoxide dismutase (SOD), glutathione peroxidase (GSH-Px) and lipid metabolite malondialdehyde (MDA) are important indicators for measuring oxidative damage in tissues. F. velutipes polysaccharides, Pleurotus eryngii polysaccharides, and anthocyanins in blueberries are powerful antioxidants that up-regulate SOD activity, increase MDA level, inhibit oxidative stress, and prevent harmful free radicals from oxidizing and damaging brain cells, thereby significantly enhancing brain function and delaying aging of brain.

**Promotes blood circulation in the brain**
Blueberry flavonoids can pass through the blood brain barrier, eliminate free radicals, restore vascular function, and improve blood circulation in the brain.

**Promotes brain neuronal metabolism**
Abnormal energy metabolism is one of the major causes of cell death. Blueberry juice concentrate can increase the activity of lactate dehydrogenase (LDH) in rat brain tissue, accelerate the elimination of lactic acid during exercise and relieve exercise fatigue.
Mechanism of Action

Promotes neuronal growth and slow down progressive neuronal death
F. velutipes polysaccharide (FVP) can alleviate hippocampal neurons damage caused by aging. Blueberry extract can protect hippocampal neurons from cell death by down-regulating the oxidative stress/inflammatory response.

Regulation of neurotransmitters in the central nervous system
Neurotransmitters are chemical messengers that enable neurotransmission. Alteration of their levels has been shown to affect brain function.
• FVP can increase the levels neurotransmitters such as dopamine (DA), norepinephrine (NE), serotonin (5-HT) and acetylcholine (ACh) to accelerate recovery from fatigue.
• FVP can increase the levels of Ach in the brain. FVP accelerates the synthesis and reduces the decomposition rate of ACh by enhancing and decreasing the activity of choline acetyltransferase (ChAT) and acetylcholinesterase (AChE), respectively.
• FVP significantly enhance the expression levels of Connexin36 and p-CaMKII proteins to promote the biosynthesis and secretion of neurotransmitters.
• Pleurotus eryngii polysaccharide can decrease the levels of excitatory neurotransmitter glutamate to reduce nerve cell damage.
**Product function**

**Antioxidant, Anti-fatigue, Anti-aging**
F. velutipes polysaccharides, P. eryngii polysaccharides, anthocyanins, polyphenolic compounds and proanthocyanidins in blueberries can improve the antioxidant capacity of the body and reduce the damage of free radicals to the body by eliminating free radicals or activating the antioxidant defense system, thereby preventing fatigue and aging.

**Improve memory and focus**
F. velutipes polysaccharides and P. eryngii polysaccharide can protect nerve cells, increase neurotransmitters levels and enhances neuronal activity, thereby improving memory impairment; zinc found in F. velutipes and blueberries helps to improve learning and memory; blueberry flavonoids and anthocyanins prevent brain dysfunction, improve short-term memory and reduce the risk of developing Alzheimer's disease.

**Promotes blood circulation**
The flavonoids in blueberries can improve vascular function in the brain, promote blood flow in the body and improve overall physical function.

**Increase immunity and anti-tumor**
F. velutipes polysaccharides, blueberry extract, and P. eryngii active substances can activate immune cells and enhance the body's immunity; flavonoids, anthocyanins, phenolic acids, lignans, etc. found in blueberries have different degrees of inhibitory effect on cancer cells.
Product Advantages

Combined formula with a diverse range of nutrients
Our formula comprises of different natural ingredients, with Flammulina velutipes and Pleurotus eryngii as the main ingredients and supplemented with blueberry extract. The combination gives better effects than a single ingredient.

High bioavailability and high absorption
By using advanced isolation and extraction technology, bioactivity of the natural bioactive compounds are maximally preserved, providing the maximal health benefits to our consumers.

All natural and safe formula
Our product is 100% natural origin, ingredients extraction using advanced technology, no chemical composition, no additive, no preservative, no drug resistance.
Target Audience

- Middle-age and elderly people with memory loss and slow response
- Office workers who overwork their brains and often feel tired
- Teenagers who are preparing for exams and experiencing exam stress
- Growing kids with incredibly active minds and intense physical activity
Directions

• Children age 2-6: 2~3mg (one sachet every three days, a three month treatment course)

• Children age 6 - 10: 5mg (one sachet every three days, a three month treatment course)

• Children age 10 - 18: 10mg (two sachets every two days, a three month treatment course)

• Adult above 18: 10mg (two sachets everyday, a three month treatment course)

• Alzheimer’s disease: 20mg (four sachets everyday a three month treatment course)

• Parkinson’s disease: 30mg (six sachets everyday a three month treatment course)
The brain is our most precious asset. Our life, wisdom and soul are all connected to our brains. A healthy brain is the key to our healthy and happy life.