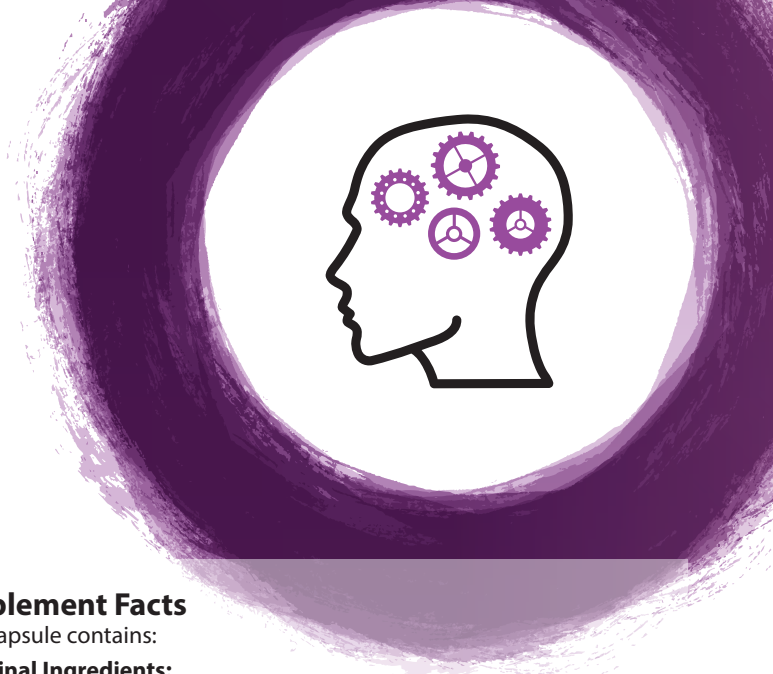
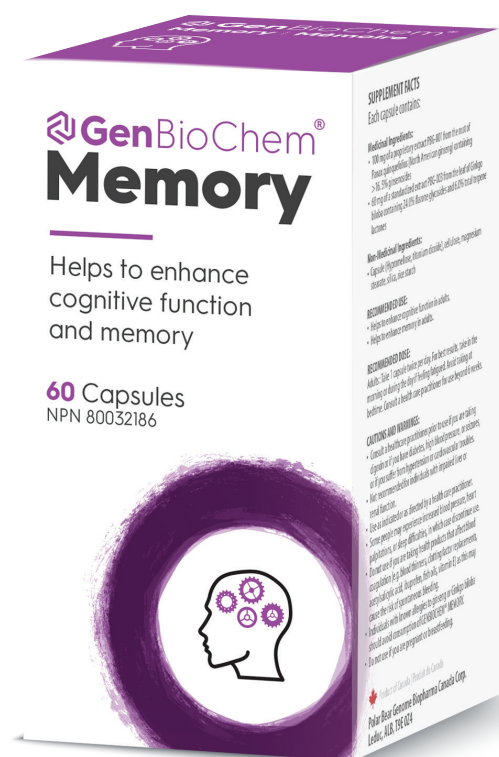


# GenBioChem<sup>®</sup> Memory

GenBioChem<sup>®</sup> Memory helps to enhance cognitive function and memory.

NPN: 80032186



## Supplement Facts

Each capsule contains:

### Medicinal Ingredients:

- 100 mg of a proprietary extract PBG-001 from the root of Panax quinquefolius (North American ginseng) containing 16.5% ginsenosides
- 60 mg of a standardized extract PBG-003 from the leaf of Ginkgo biloba containing 24.0% flavone glycosides and 6.0% total terpene lactones

### Non-Medicinal Ingredients:

- Capsule (hypromellose, titanium dioxide), excipients (cellulose, magnesium stearate, silica, rice starch)

### Recommended Use or Purpose:

- Helps to enhance cognitive function in adults
- Helps to enhance memory in adults

### Recommended Dose:

- Adults: Take 1 capsule twice per day. For best results, take in the morning or during the day if feeling fatigued. Avoid taking at bedtime.
- Consult a healthcare practitioner for use beyond 6 weeks

### Cautions and Warnings:

- Consult a healthcare practitioner prior to use if you are taking digoxin or if you have diabetes, high blood pressure, or seizures, or if you suffer from hypertension or cardiovascular troubles
- Not recommended for individuals with impaired liver or renal function
- Use as indicated or as directed by a health care practitioner
- Some people may experience increased blood pressure, heart palpitations, or sleep difficulties, in which case discontinue use
- Do not use if you are taking health products that affect blood coagulation as this may cause the risk of spontaneous bleeding
- Individuals with known allergies to ginseng or Ginkgo biloba should avoid consumption of GENBIOCHEM<sup>®</sup> MEMORY
- Do not use if you are pregnant or breastfeeding

### Target Populations:

- People with age-related memory loss
- Students looking to improve cognition
- People looking to slow the effects of neurodegeneration

**GenBioChem<sup>®</sup> Triple Fingerprinting Technology** Pharmaceutically Standardized using GenBioChem<sup>®</sup> Triple Fingerprinting Technology

Our proprietary ginseng extract is derived from the matured root of **North American ginseng** (>4 years). Many products in the market use nonmedicinal parts of the ginseng plant, such as leaves, or less efficacious parts such as the non-matured root. Please read the label carefully before purchasing ginseng-based natural health products to ensure you are getting an effective product.

## Our Unique Platform Technology

Our scientific and medical team have developed a breakthrough proprietary technology platform, GenBioChem<sup>®</sup> Triple Fingerprinting Technology™. Several cutting-edge analytic and biomedical technologies are involved in this technology platform:

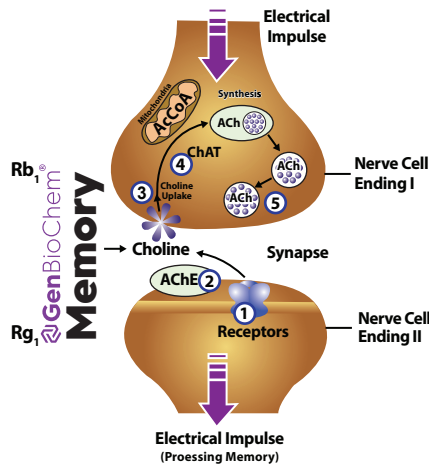
**1. Chemical Fingerprinting:** Through the use of advanced analytical methods and instruments, Chemical Fingerprinting reveals the active phytochemical ingredients, clarifying the identity, authenticity and purity of each product.

**2. Biological and Genomic Fingerprinting:** Both these techniques reveal the targeted health benefit of our products when tested for their biological/pharmacological effects and targeted genomic (mRNA) profiles relevant to health status. Our GenBioChem<sup>®</sup> Triple Fingerprinting Technology ensures quality, authenticity and purity throughout our entire production cycle from lab to shelf.

## 1. GenBioChem® enhances uptake of Choline by nerve endings in the brain resulting in significant memory improvement.

The level of acetylcholine in the brain is determined by 1) the synthesis of ACh inside the nerve ends using choline as the substrate; 2) the release of ACh from the nerve ending to interact with nerve cells by generating an intracellular signaling cascade; 3) the breakdown of ACh to choline and other chemicals by enzyme reaction outside the nerve cells; 4) the recycle of choline to the nerve endings through re-uptake of choline by the nerve endings. Launch Memory and its active components, ginesenosides (Rb1, Rg1, etc) increase the re-uptake of choline, therefore increase the level of ACh.

### Cholinergic Neurotransmission process



**Step 1.** : ACh binds and interacts with nerve cell membrane and generates biochemical and electric events associated with learning and memory

**Step 2.** : ACh is degraded by enzyme AChE

**Step 3.** : Choline is transported or pumped by nerve ending through membrane transporter

**Step 4.** : Using choline as the substrate, the nerve cell synthesizes more ACh by the enzymes AcCoA and ChAT.

**Step 5.** : ACh is released to the synaptic cleft and then intact with the membrane receptor and degraded by AChE (back to process 1).

*\*GenBioChem® Memory increases the choline uptake by the nerve ending (step 3). As a result the content of ACh is increased.*

#### Definitions:

**Acetylcholine (ACh):** A neurotransmitter relating to memory and learning

**Synapse:** Nerve cell conjunction formed by 2 nerve cell endings. The space between two nerve endings is called the "synaptic cleft".

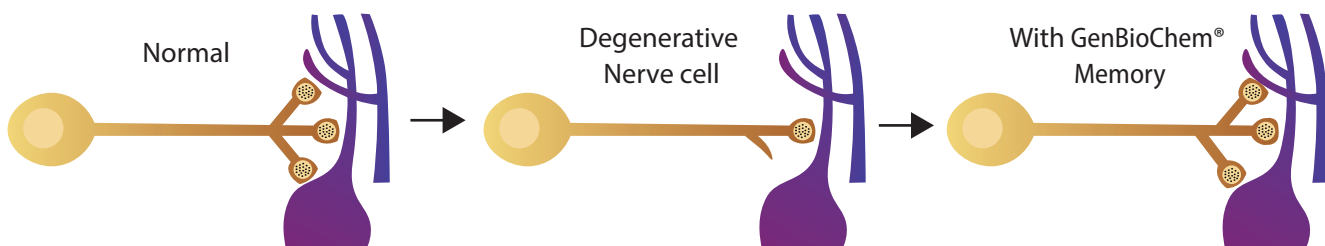
**AcCoA and ChAT:** The co-enzyme in the mitochondria and the enzyme responsible for the synthesis of ACh.

**Choline:** A substrate for the synthesis of ACh.

**Electrical Impulse:** Electrical signals generated through the cell membrane and transmitted from one nerve cell to another through neurotransmitters such as ACh.

## 2. GenBioChem® Memory stimulates neurite growth in cultured nerve cells and has been shown to exhibit nerve growth factor-like effects, i.e., to re-establish the lost synaptic contacts between nerve cells.

GenBioChem® Memory increases neurite outgrowth, therefore increase the number of synapses.



#### Our Company:

GenBioChem® Memory™ is developed and manufactured by Polar Bear Genome BioPharma Canada Corp (PBG BioPharma). PBG BioPharma is a vertically integrated biopharmaceutical Canadian company based in Alberta and Ontario. We are committed to becoming a world leader in the development and manufacturing of evidence-based natural health products using our proprietary GenBioChem® Triple Fingerprinting Technology.

#### Our Founder and Chief Scientist:

Dr. Jacqueline Shan is an award-winning international scientist and business leader and the creator of the #1 selling colds and flu product in Canada, COLD-fx®. She leads a team of scientists and medical professionals in Canada and around the world to research and develop innovative biotechnologies and biomedical products.