



Neuro Support

The cGP Lab Ltd develops products that deliver 100% natural, cyclic Glycine-Proline (cGP) – a molecule critical to our health and wellbeing as we age. Cognitive decline is a common phenomenon associated with ageing affecting memory, processing speed and executive function, compromising overall quality of life. cGPMAX[®]PLUS is The cGP Lab's professional range designed for practitioners.

Neuro Support is formulated using ingredients scientifically proven to support healthy brain function, focus and vitality.

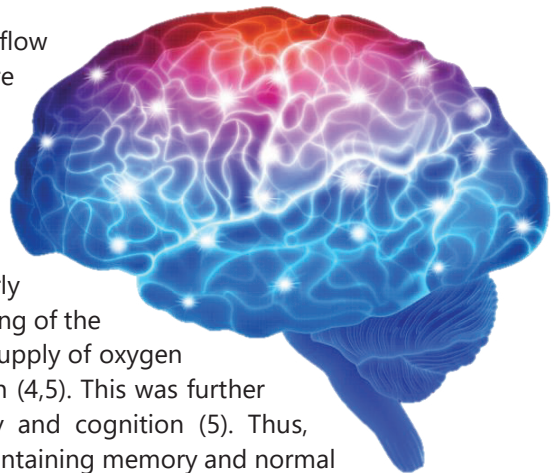
Brain Health and Cyclic Glycine-Proline (cGP):

Cyclic Glycine-Proline (cGP) is an endogenous molecule with a unique mechanism of action. It works by normalising Insulin-like Growth Factor-1 (IGF-1) which is essential for brain development, memory, cognitive function, and recovery from brain injury. In addition to its function as a neurotrophic factor in brain, IGF-1 regulates cerebral vascular remodelling and function.

Ageing is associated with declining levels of IGF-1 with studies suggesting decreased levels in people over 60 years of age (1). Low IGF-1 levels are associated with brain ageing and the onset of mild cognitive impairment (2) as well as, implicated in the progression of neurodegenerative conditions such as Alzheimer's Disease, Parkinson's Disease and Dementia (2). Advancements in research have confirmed a connection between healthy brain ageing and improved health span, highlighting the importance of maintaining optimal IGF-1 levels through later adulthood.

The brain is a blood vessel rich organ and requires constant blood flow to function properly. As we age, this blood flow reduces, compromising brain health. A study evaluating 234 adults aged 36 – 90, suggested that blood flow to the brain decreases as we age, with grey matter being the first area to be affected after the age of 50y (3)

The role of IGF-1 in maintaining blood vessel health and regulating blood flow has been long-studied and established. Reduced IGF-1 levels are associated with compromised microcirculation, which affects brain health and function. The brain's small blood vessels (microvasculature) are an integral part of the circulatory network that facilitate the uptake of nutrients and oxygen, as well as help in removal of cellular waste. A study in Sweden reported a link between the brain's microvasculature and why memory deteriorates with age. Their findings showed elderly people have higher surges of blood pressure in their brains due to stiffening of the body's large arteries which can damage capillaries, leading to an under-supply of oxygen and nutrients to surrounding brain cells, ultimately resulting in cell death (4,5). This was further correlated to reduced brain volume in areas responsible for memory and cognition (5). Thus, highlighting the critical role of microcirculation and capillary health in maintaining memory and normal cognition especially as we age.



cGP has been reported to have neuroprotective properties. It increases bioavailability of IGF-1, enabling regeneration of small blood vessels (capillaries) and vascular remodelling in the brain (6–8). IGF-1 function spans across various mechanisms of this process including:

- 1) Promoting cell growth and angiogenesis - which is the formation of new blood vessels.
- 2) Maintaining vascular integrity – health and function of existing blood vessels.
- 3) Regulating blood flow through vasoconstriction/vasodilatation.
- 4) Repair and/or removing old and damaged blood vessels.

Age, stress, and lifestyle all contribute to progressively declining IGF-1 levels, which in turn increases the need for cGP. Unfortunately, the body is unable to fulfil the increasing need of cGP, resulting in a negative feedback loop causing even further decline in IGF-1 levels. Normalising IGF-1 levels through cGP supplementation, therefore, provides an opportunity to support brain health, cognitive function, and overall quality of life.

cGPMAX^{PLUS} Neuro Support brings together scientifically researched and clinically proven ingredients that help support:



Healthy brain function



Focus



Vitality

Active ingredients:



cGP-PRO: contains the active cyclic Glycine Proline, using NZ grown blackcurrants that regulates the amount of active IGF-1 in plasma. cGP has been extensively studied for its crucial role in remodelling vascular health and age-related vascular degeneration *in vitro* and *in vivo* (9). In a study, pregnant rats that received oral cGP had offsprings with significantly improved memory in adulthood, compared to controls (10). Furthermore, an observational study in older adults showed the importance of cGP for memory and cognitive function with age. People with higher levels of cGP had better memory while lower levels of cGP were associated with cognitive impairment (11).

Bacopa monnieri: also known as Brahmi, is a herb used in traditional Ayurvedic medicine for its renowned cognitive benefits. It's neuroprotective and adaptogenic properties support memory, learning, and concentration. *B. monnieri* is very well researched botanical, rich in antioxidants and is associated with supporting stress, anxiety, and inflammation. A randomised control trial with 60 healthy elderly participants suggested that 300mg/day of *B. monnieri* extract could support memory and attention (12).

FOR PRACTITIONERS ONLY

Ingredients (Each capsule contains):

cGP-PRO[™] 100mg

Equivalent to:

40mcg cGP

75mg *Ribes nigrum* (Blackcurrant) Fruit Powder

10mg Hydrolyzed Collagen (Bovine)

Bacopa monnieri (Bramhi) Leaf Extract 300mg

Also contains: Gelatin (capsule shell), Maltodextrin, Magnesium Stearate, Titanium Dioxide.

May contain traces of fish or molluscs.

Storage: Store below 30°C in a cool, dry place away from direct sunlight.

Manufactured for The cGP Lab Ltd by:
PharmaNZ Limited, 2/18 Lincoln Street, Frankton, Hamilton, 3204,
New Zealand. PNZ1.

Suggested use: 2 capsules daily

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References

1. Deak F, Sonntag WE. Aging, Synaptic Dysfunction, and Insulin-Like Growth Factor (IGF)-1. *J Gerontol A Biol Sci Med Sci*. 2012 Jun 1;67A(6):611–25.
2. Sonntag WE, Ramsey M, Carter CS. Growth hormone and insulin-like growth factor-1 (IGF-1) and their influence on cognitive aging. *Ageing Res Rev*. 2005 May 1;4(2):195–212.
3. Juttukonda MR, Li B, Almaktoou R, Stephens KA, Yochim KM, Yacoub E, et al. Characterizing cerebral hemodynamics across the adult lifespan with arterial spin labeling MRI data from the Human Connectome Project-Aging. *Neuroimage* [Internet]. 2021 Apr 4 [cited 2023 Nov 10];230:117807. Available from: [/pmc/articles/PMC8185881/](https://pubmed.ncbi.nlm.nih.gov/34818588/)
4. Wählin A, Nyberg L. At the Heart of Cognitive Functioning in Aging. *Trends Cogn Sci* [Internet]. 2019 Sep 1 [cited 2023 Nov 15];23(9):717–20. Available from: <http://www.cell.com/article/S1364661319301561/fulltext>
5. Wählin A, Ambarki K, Birgander R, Malm J, Eklund A. Intracranial pulsatility is associated with regional brain volume in elderly individuals. *Neurobiol Aging*. 2014 Feb 1;35(2):365–72.
6. Guan J, Harris P, Brimble M, Lei Y, Lu J, Yang Y, et al. The role for IGF-1-derived small neuropeptides as a therapeutic target for neurological disorders. [http://dx.doi.org/10.1517/14728222.2015.1010514](https://doi.org/10.1517/14728222.2015.1010514) [Internet]. 2015 Jun 1 [cited 2022 Aug 31];19(6):785–93. Available from: <https://www.tandfonline.com/doi/abs/10.1517/14728222.2015.1010514>
7. Guan J, Mathai S, Harris P, Wen JY, Zhang R, Brimble M, et al. Peripheral administration of a novel diketopiperazine, NNZ 2591, prevents brain injury and improves somatosensory-motor function following hypoxia–ischemia in adult rats. *Neuropharmacology*. 2007 Nov 1;53(6):749–62.
8. Guan J, Gluckman P, Yang P, Krissansen G, Sun X, Zhou Y, et al. Cyclic glycine-proline regulates IGF-1 homeostasis by altering the binding of IGFBP-3 to IGF-1. *Sci Rep* [Internet]. 2014 Mar 17 [cited 2022 Aug 31];4. Available from: <https://pubmed.ncbi.nlm.nih.gov/24633053/>
9. Li F, Liu K, Gray C, Harris P, Reynolds CM, Vickers MH, et al. Cyclic glycine-proline normalizes systolic blood pressure in high-fat diet-induced obese male rats. *Nutrition, Metabolism and Cardiovascular Diseases* [Internet]. 2020 Feb 10 [cited 2023 Nov 9];30(2):339–46. Available from: <http://www.nmcd-journal.com/article/S0939475319303552/fulltext>
10. Singh-Mallah G, Singh K, McMahon CD, Harris P, Brimble MA, Thorstensen E, et al. Maternally Administered Cyclic Glycine-Proline Increases Insulin-Like Growth Factor-1 Bioavailability and Novelty Recognition in Developing Offspring. *Endocrinology*. 2016 Aug 1;157(8):3130–9.
11. Fan D, Pitcher T, Dalrymple-Alford J, MacAskill M, Anderson T, Guan J. Changes of plasma cGP/IGF-1 molar ratio with age is associated with cognitive status of Parkinson disease. *Alzheimers Dement (Amst)* [Internet]. 2020 [cited 2022 Sep 5];12(1). Available from: <https://pubmed.ncbi.nlm.nih.gov/32671179/>
12. Peth-Nui T, Wattanathorn J, Muchimapura S, Tong-Un T, Piyavhatkul N, Rangseekajee P, et al. Effects of 12-Week *Bacopa monnieri* Consumption on Attention, Cognitive Processing, Working Memory, and Functions of Both Cholinergic and Monoaminergic Systems in Healthy Elderly Volunteers. *Evidence-Based Complementary and Alternative Medicine*. 2012;2012:1–10.