EPITHALON → PINEALON

Cognitive Longevity Protocol | Brain Health & Cellular Aging Support

Tecaya Health
Larrea Naturopathic Medicine

What Are Peptide Bioregulators?

Peptides are small chains of amino acids — the building blocks of proteins — that act as natural messengers in the body. Peptide bioregulators are a special class that communicate directly with your cells, signaling them to function more efficiently, repair themselves, and age more gracefully. Epithalon and Pinealon were developed by researchers in Russia and have been studied for decades in the context of aging, brain health, and cellular longevity — with particular focus on the pineal gland's role in neuroendocrine regulation.

EPITHALON (Ala-Glu-Asp-Gly)

Tetrapeptide Bioregulator

Epithalon is a tetrapeptide derived from the pineal gland, studied extensively by Khavinson and colleagues at the St. Petersburg Institute of Bioregulation and Gerontology. It influences cellular aging pathways, circadian signaling, and genomic stability.

Telomerase & Gene Regulation

- Upregulates TERT expression and activates telomerase
- Helps maintain telomere length and chromosomal stability
- Interacts with DNA promoter regions
- Influences transcription of repair and antioxidant genes
- Regulates apoptosis pathway expression

Antioxidant & Neuroendocrine Effects

- Increases SOD (superoxide dismutase) activity
- Boosts glutathione peroxidase and catalase
- Reduces neuronal oxidative stress
- Normalizes cortisol and corticosteroid rhythms
- May suppress oncogenic cell cycle signaling

Pineal Gland Modulation

Epithalon regulates melatonin synthesis, restoring circadian rhythm integrity and supporting sleep-dependent neuronal repair. Neuroendocrine normalization of cortisol rhythms may reduce neuroinflammation and protect hippocampal neurons.

PINEALON (Glu-Asp-Arg)

Tripeptide Neuroregulator

Pinealon is a tripeptide neuroregulatory peptide that modulates neuronal gene expression and protects brain tissue from oxidative and ischemic injury. It is particularly relevant in neurodegenerative and cognitive decline contexts.

Neuroprotection & Gene Regulation

- Regulates neuronal survival gene expression
- Supports synaptic plasticity
- Stabilizes mitochondrial metabolism
- Reduces glutamate-induced excitotoxicity

Antioxidant & Circadian Support

- Reduces lipid peroxidation in brain tissue
- Supports neuronal antioxidant defense
- Modulates melatonin signaling
- Enhances glymphatic detoxification

Observed Cognitive Effects

- Improvements in learning capacity and short-term memory
- Enhanced mental clarity and processing speed
- Support for sleep quality and circadian integrity
- Neuronal repair via glymphatic system optimization

Clinical Applications

- Neurodegenerative disease support
- Longevity medicine & cellular reset protocols
- Circadian rhythm disorders
- Neuroendocrine aging
- Immune decline associated with aging

What Epithalon Does for You

- → **Supports healthy aging at the cellular level**
- → **Helps protect the protective caps on your DNA (telomeres)**
- → **Improves your body's natural antioxidant defenses**
- → **Helps regulate melatonin and supports restorative sleep**
- → **May support immune function and reduce inflammation**

What Pinealon Does for You

- → **Supports and protects brain cells from damage**
- → **May improve memory, focus, and mental clarity**
- → **Helps reduce brain fog and cognitive fatigue**
- → **Supports healthy sleep patterns and circadian rhythm**
- → **Assists the brain's natural detox and repair process**

How These Peptides Work Together

Epithalon and Pinealon are used in sequence because they complement each other's actions:

Phase 1 — Epithalon (15-day cellular reset): Prepares the cellular environment — reducing oxidative stress, supporting DNA stability, and restoring circadian signaling.

Phase 2 — Pinealon (targeted neuropeptide therapy): Builds on that foundation to protect neurons, support cognitive function, and promote brain longevity.

Suggested Protocol & What to Expect

Peptide	Route	Duration	Cycle	Clinical Goal
Epithalon	Subcutaneous injection	15 days	Seasonally or as directed	Cellular reset / telomere support / circadian restoration
Pinealon	Subcutaneous or intranasal	Per protocol	Follows Epithalon phase	Neuroprotection / cognitive support / glymphatic optimization

Patient Questions & Answers

How is this administered?

These peptides are given as small subcutaneous (under-the-skin) injections, similar to an insulin pen. Dr. Tecaya will instruct you on proper technique and provide all necessary supplies.

When will I notice results?

Some patients notice improved sleep quality within the first 1-2 weeks. Cognitive benefits and deeper cellular effects build over weeks to months as the protocol progresses.

Are there side effects?

Peptide bioregulators are generally very well-tolerated. Mild injection-site reactions may occasionally occur. Your provider will monitor your progress and response throughout the protocol.

How often will I repeat this?

Protocols are typically cycled — often seasonally or as your provider recommends based on your labs and clinical response. Many patients repeat 1-2 times per year for ongoing longevity support.

Selected Research References

- Khavinson V., et al. — Peptide regulation of gene expression and aging.
- Anisimov VN. — Effect of pineal peptides on lifespan and tumor incidence.
- Khavinson V., Morozov V. — Short peptides and aging control.

At Larrea Naturopathic Medicine, we prescribe peptides exclusively through **CLIA-certified, FDA-registered 503A compounding pharmacies.**

Every batch undergoes independent third-party testing for purity, potency, and safety. Our pharmacies are LegitScript-certified and held to rigorous regulatory standards.