



### **Nicotine Peptide 100ML / 4oz**

**Component #1** Nicotinic and muscarinic receptor frequencies along with NAD (nicotinamide adenine dinucleotide), a crucial molecule found in every cell of the body that plays a key role in energy production and various metabolic processes. The combination of these peptides and NAD, suspended in colloidal silver nanoparticles, creates **cholinergic signalling** which is critical in resetting the nervous system, especially the vagus nerve signaling.

The combination of Nicotinic, muscarinic receptors along with NAD creates the signally sequence of the vagus nerve, which is crucial for regulating involuntary body functions such as heart rate, digestion, cognitive, muscle movement, and neuroimmune communications, as it connects the brain to various organs. It plays a key role in the parasympathetic nervous system, which helps calm the body after stress and maintain homeostasis.

**The vagus nerve (Cranial Nerve X)** is the longest and most complex nerve in the body. It serves as the primary "superhighway" of the parasympathetic nervous system, carrying bidirectional signals between the brain and major internal organs to regulate involuntary functions like heart rate, breathing, and digestion.

**Component #2** Kidney, Liver and adrenal frequencies along with cranial nervous system.

#### **Overview of the Nicotine Peptide**

Nicotinic acetylcholine receptors (nAChRs) play a role in regulating insulin secretion in the pancreas by responding to acetylcholine, which is released by the vagus nerve. **This interaction helps maintain glucose homeostasis and supports the function of insulin-producing beta cells.**

In addition, alterations of nAChRs have been found in various diseases such as Parkinson's, Autistic brain, Alzheimer's, schizophrenia, depression, epilepsy, diabetes, respiration disorders and some immunological disorders. Therefore, understanding the molecular biology, physiology, pharmacology and pathophysiology of neuronal nAChRs will significantly improve the diagnosis, prevention and treatment of these diseases and pathological conditions.

Nicotine receptors, more formally known as **nicotinic acetylcholine receptors (nAChRs)**, are a type of receptor in the nervous system that respond to the neurotransmitter **acetylcholine** — and also to **nicotine**, which mimics acetylcholine.

Here's a quick rundown of their main functions:

1. **Signal transmission:** nAChRs are found in both the **central nervous system (CNS)** and **peripheral nervous system (PNS)**. They play a crucial role in **transmitting nerve signals**, especially in areas like the brain, spinal cord, and at the neuromuscular junction (where nerves communicate with muscles).
2. **Muscle activation:** At the **neuromuscular junction**, nAChRs help activate muscles by allowing ions (like sodium and potassium) to flow through when acetylcholine binds to them. This ion movement generates an electrical signal that triggers muscle contraction.
3. **Cognitive functions:** In the **brain**, nAChRs are involved in **attention, learning, memory, arousal**, and even **reward pathways**. This is part of why nicotine can temporarily enhance focus or alertness and why it's addictive — it stimulates the release of dopamine in reward-related areas.
4. **Autonomic nervous system regulation:** nAChRs also help regulate the **autonomic nervous system**, which controls involuntary functions like heart rate, digestion, and respiratory rate.

#### 5. **Nicotinic and Muscarinic Receptors Effects on Mental Health**

The effects of nicotinic and muscarinic receptors on mental health are multifaceted. Nicotinic receptors ( $\alpha 4\beta 2$  subtype) are crucial for the behavioural effects of nicotine and other drugs. They play a role in the formation of nicotine and other addictions. They are also involved in cognitive processes such as learning/ memory, which influences the formation of the mesolimbic dopamine.

Muscarinic receptors, on the other hand, are found throughout the central nervous System, involved in regulating sleep, arousal, attention, and memory formation. Their slower/signaling mechanism makes them more suitable for functions requiring a slower/ response such as the parasympathetic "rest-and-digest" response.

**Muscarinic receptors are a type of acetylcholine receptor** that play several roles in the body, primarily in the parasympathetic nervous system, where they mediate various functions such as slowing the heart rate, stimulating salivation, and regulating glandular secretions. They are involved in signaling pathways that affect smooth muscle contraction and neurotransmitter release.