

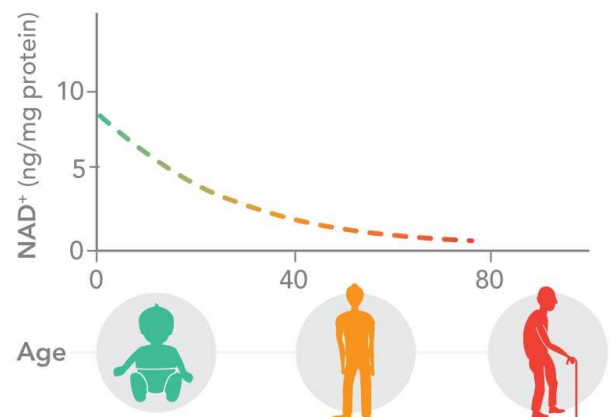
# ART NAD+ NASAL SPRAY

## What is NAD+; How is it important to health?

- Nicotinamide adenine dinucleotide (NAD)+ plays a central role in energy metabolism and oxidative phosphorylation and is a key component of many metabolic pathways for carbohydrates, lipids, and amino acids.
- NAD+ is a coenzyme in adenosine triphosphate (ATP) production (glycolysis, tricarboxylic acid (TCA) cycle, and electron transport chain) through the NAD+/NADH2 redox state.
- In addition to its coenzyme role, NAD acts as a substrate for enzymes that add or remove chemical groups from proteins in post-translational modifications leading to changes in protein functions. In this interaction,
- NAD is the source of adenosine diphosphate (ADP)-ribose for the ADP-ribosylation of proteins and poly-ADP-ribosylation of nucleoproteins.
- Enzymes that use NAD as a substrate include poly-ADP-ribose polymerase-1 (PARP-1), which is essential for DNA repair; cADPR-ribose synthases (CD38 and CD157), which produce mediators of calcium signaling involved in lymphocyte chemotaxis or microglia activation; and the sirtuins lysine deacetylases, which improve mitochondrial adaptation.

## NAD+ is Essential for Life & diminishes as we age

- NAD+ stands for nicotinamide adenine dinucleotide. NAD+ is a molecule found in every cell in the body that is used to power metabolism, construct new cellular components, resist free radical and DNA damage and send signals within the cells. It enables the mitochondria – the **“powerhouses of the cell”** to convert the food we eat into the energy our body needs to sustain all its functions. It is also required to “turn off” genes implicated in accelerating aging processes.
- Healthy mitochondrial function is an important component of healthy human aging. Our body naturally has the ability to make NAD+ from components in the food we



eat. Research in laboratory animals and people shows that as we age, levels of NAD+ declines substantially.

- This decline leaves us at greater risk for neuro and muscular degeneration, declines in our cardio-metabolic health and our capacity for repair and resiliency. Research suggests NAD+ is key to increasing the amount of time we spend in good health.
- One of the major issues with drug addiction patients are low brain energy levels to think clearly resulting in mood alterations, distorted time and sensory perception, decreased memory, and solving problems.

## **ART NAD+ Nasal Spray, an innovative NAD+ delivery system.**

The development of neuroprotective supplements has so far proven exceptionally difficult due to the blood-brain barrier. One novel approach to address this challenge is to administer drugs intranasally to noninvasively bypass the blood-brain barrier. The intranasal route can thus transport drugs directly to the brain from the nasal cavity along the olfactory and trigeminal nerves.

ART NAD+ Nasal Spray – Nicotinamide Adenine Dinucleotide- is an intranasal non-invasive route for NAD+ delivery which offers advantages such as:

- ✓ Ease of administration
- ✓ Maximum bioavailability
- ✓ Rapid onset of action
- ✓ Avoidance of first-pass liver metabolism

Recent research shows that NAD+ crosses the blood brain barrier to quickly raise NAD+ levels in the hypothalamus<sup>1</sup>, which is the master regulator of our metabolism.

### **Product Benefits:**

- ✓ Helps with cell and mitochondrial health
- ✓ Extra cellular energy production for vitality
- ✓ Clinically studied for anti-aging and longevity

### **Product Dosage and Stability:**

- ✓ 6-gram NAD+ in 30 ml (1 oz)
- ✓ Dosage: 3 sprays (0.6ml)- 120 mg
- ✓ Fifty doses



- ✓ The product is stable with specified potency for 4 months from the date of manufacture at 2°C-8°C

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