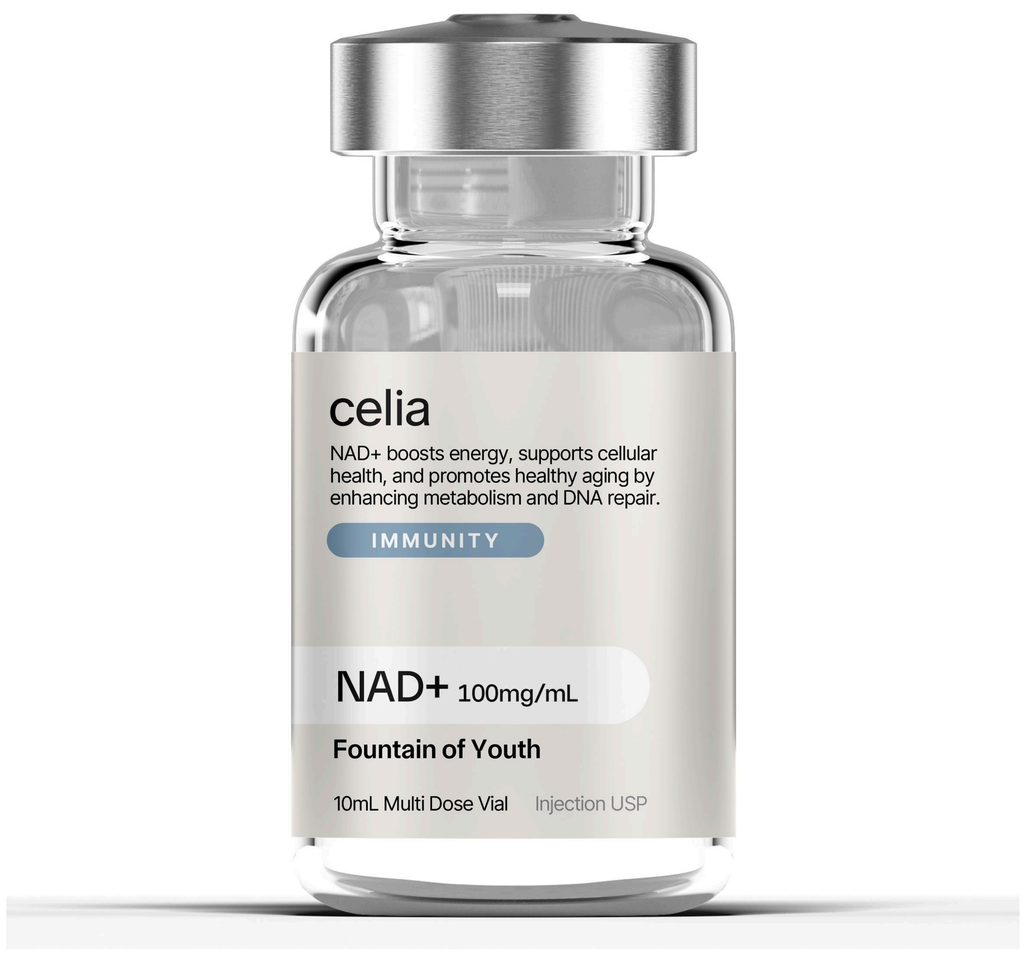
NAD+



About

A vital coenzyme that boosts cellular energy, enhances DNA repair, and supports healthy aging by optimizing mitochondrial function and promoting overall metabolic health.

Benefits

- Supports cellular energy production
- Enhances DNA repair and longevity
- Improves cognitive function
- Stimulate neural plasticity
- Reduce neuroinflammation

Dosing

- Pull .50ml dose into the syringe and inject into the buttocks subcutaneously 3 x a week

*Can be administered IM if experiencing redness, itching or swelling at the injection site

Mechanism of Action

Learn more on page 2.

Duration

12 months

What’s Included

Reconstitution Instructions:
This product is already reconstituted.

Administration Kit:
(20) 27-30G subq needles

NAD+

Mechanism of Action

1. Electron Transport and Energy Production (Redox Reactions):

- Role in Cellular Respiration:
  a. NAD+ acts as an electron carrier in oxidative phosphorylation.
  b. It participates in redox reactions, alternating between oxidized (NAD+) and reduced (NADH) states.
- Process:
  a. NAD+ accepts two electrons and one proton (H+) during catabolic reactions (e.g., glycolysis, citric acid cycle).
  b. This reduces NAD+ to NADH.
  c. NADH then donates the electrons to the electron transport chain in mitochondria, driving ATP production through oxidative phosphorylation.

2. Substrate for NAD+-Dependent Enzymes:

- NAD+ serves as a substrate for various enzymes involved in cell signaling and repair, including:
  A. Sirtuins (Class III Histone Deacetylases):
  - NAD+ is consumed by sirtuins to regulate gene expression, stress responses, and mitochondrial function.
  - This process links NAD+ levels to longevity and metabolic health.
- B. PARPs (Poly(ADP-Ribose) Polymerases):
  - PARPs use NAD+ to repair DNA damage through poly(ADP-ribosyl)ation.
  - High DNA damage can deplete NAD+ levels, impacting cellular energy and repair mechanisms.
- C. CD38/CD157 Enzymes:
  - These enzymes metabolize NAD+ into signaling molecules such as cyclic ADP-ribose, which regulates calcium signaling and immune responses.

3. Regulation of Cellular Metabolism:

- NAD+/NADH Ratio:
  - Acts as a metabolic sensor and regulator, influencing pathways such as glycolysis, gluconeogenesis, and fatty acid oxidation.
  - A high NAD+/NADH ratio favors catabolic processes, while a low ratio supports anabolic pathways.