

NAD⁺

NAD⁺ (nicotinamide adenine dinucleotide) is not a peptide; it is a dinucleotide coenzyme essential for redox metabolism and a substrate for sirtuins, PARPs and CD38. It is studied in aging and metabolic research.

Formula	C ₂₁ H ₂₇ N ₇ O ₁₄ P ₂
Average mass	663.43 g/mol
Evidence	Early clinical studies
US status	Not an FDA-approved drug
WADA	Check the current Prohibited List

Dinucleotide coenzyme; not a peptide.

What the COA should show

Because NAD⁺ is a small-molecule coenzyme rather than a peptide, its certificate of analysis should report identity by mass spectrometry or comparison with a reference standard, purity by HPLC with UV detection, and water content. Key impurities and degradation products include nicotinamide, ADP-ribose, adenosine diphosphate and NADH; the certificate should confirm that the material is the oxidized form (NAD⁺) rather than NADH or NADP⁺. The salt form (free acid versus sodium salt) should be stated, since it affects content per milligram.

Storage and stability

Store NAD⁺ powder sealed at -20 °C, protected from light and moisture; it is hygroscopic. NAD⁺ is relatively stable in mildly acidic solution but degrades in basic conditions and at higher temperatures, releasing nicotinamide. NADH, by contrast, is more stable in basic solution and unstable in acid. Prepare solutions close to use, keep them cold, and avoid repeated freeze-thaw cycles.

Full entry, references and latest research: <https://peptidewiki.net/compounds/nad/>
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