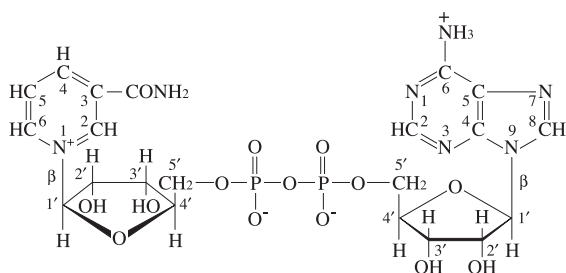


β-NAD⁺

β-Nicotinamide-adenine dinucleotide, oxidized form (free acid)

from Yeast

Structure



Formula

: C₂₁H₂₇N₇O₁₄P₂

Formula Weight

: 663.4 (as anhydrous free acid)
: 681.4 (as monohydrate)

Specification

Purity

Determined by Enzymatic Method (ADH) ≥ 95%

Water Content

< 8%

UV Spectral Analysis

ε at 260 nm and pH 7.5 (18.0 ± 0.5) × 10³

Ratio at pH 7.5

A₂₅₀/A₂₆₀ 0.83 ± 0.03

A₂₈₀/A₂₆₀ 0.21 ± 0.02

ε when reduced with ADH

at 340 nm and pH 10 (6.3 ± 0.2) × 10³

Ratio when reduced with ADH at pH 10

A₃₄₀/A₂₆₀ 0.43 ± 0.01

Assay Procedure

I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm

Pipette the following reagents into a cuvette

	a	b	c
Tris-EtOH (0.1 mol/L, 2.4%)	5.0 mL	5.0 mL	5.0 mL
ADH (50 U/mL)	0.3 mL	—	0.3 mL
NAD ⁺ (0.45 mg/mL)	0.5 mL	0.5 mL	—
Distilled water	0.2 mL	0.5 mL	0.7 mL

II Calculation

$$\frac{\Delta A \cdot V \cdot MW \times 100}{6.3 \times 10^3 \cdot d \cdot v \cdot s} \times \frac{100}{100 - W} = \text{Purity of NAD}^+$$

ΔA = A_a - (A_b + A_c)

V = Total volume of reaction mixture (6.0 mL)

MW = 663.4, anhydrous free acid

6.3 × 10³ = Molar extinction coefficient of NADH
at 340 nm (L · mol⁻¹ · cm⁻¹)

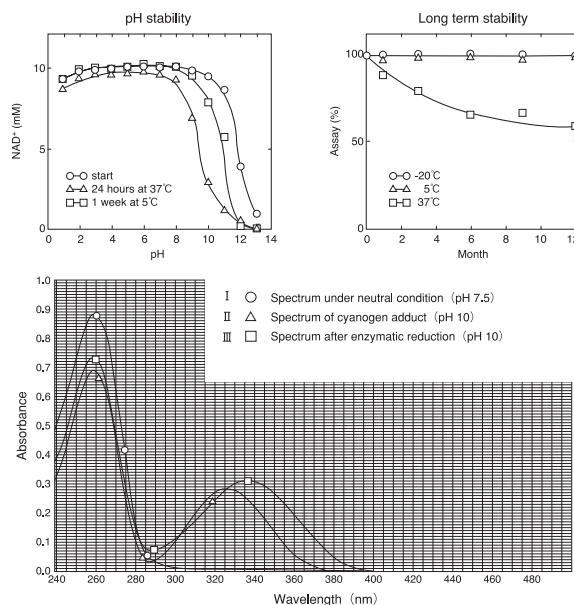
d = Light path length (1 cm)

v = Sample volume (0.5 mL)

s = Sample concentration (0.45 mg/mL)

W = Water content (%)

Reference Data



Storage

Store below -20°C. Handling during short term such as transportation is allowed at 1 - 10°C.

Store in the dark. Keep off humidity.

Cat. No./Package

Cat. No.	Package	Cat. No.	Package
44065908	10 g	44065900	Bulk
44065903	500 g		

For in vitro diagnostic or research use only



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