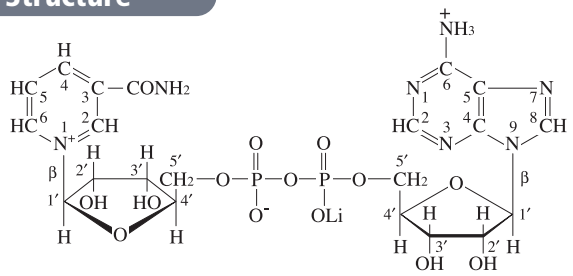
β-NAD⁺-Li

β-Nicotinamide-adenine dinucleotide, oxidized form (monolithium salt)

from Yeast

Structure



Formula

：$C_{21}H_{26}N_7O_{14}P_2 \cdot Li$

Formula Weight

：663.4（as anhydrous free acid）
：669.4（as monolithium anhydrate）
：705.4（as monolithium dihydrate）

Specification

Purity

Determined by Enzymatic Method（ADH）	≧ 95%
Water Content	＜ 8%
Li Content	1.0 ± 0.5%

UV Spectral Analysis

ε at 260 nm and pH 7.5	(18.0 ± 0.5) × 10^3
Ratio at pH 7.5	
A_{250}/A_{260}	0.83 ± 0.03
A_{280}/A_{260}	0.21 ± 0.02
ε when reduced with ADH at 340 nm and pH 10	(6.3 ± 0.2) × 10^3
Ratio when reduced with ADH at pH 10	
A_{340}/A_{260}	0.43 ± 0.01

Assay Procedure

I Spectrophotometric Method

Wavelength ： 340 nm, Light path length ： 1 cm

Pipette the following reagents into a cuvette

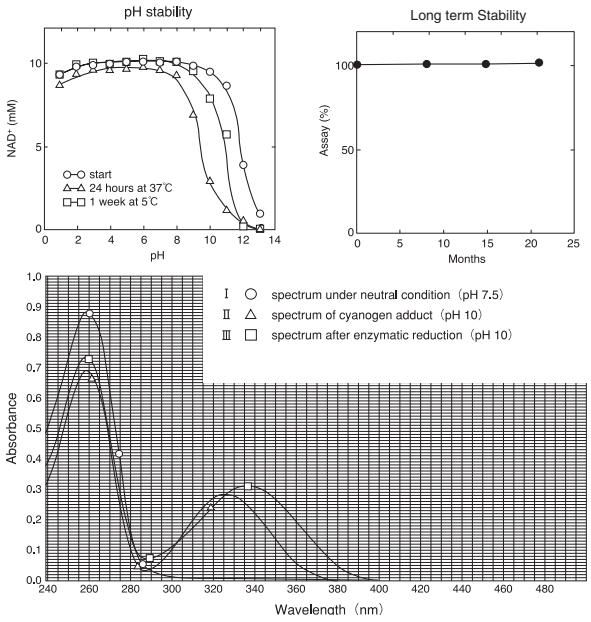
	a	b	c
Tris-EtOH（0.1 mol/L, 2.4%）	5.0 mL	5.0 mL	5.0 mL
ADH（50 U/mL）	0.3 mL	—	0.3 mL
NAD^+（0.45 mg/mL）	0.5 mL	0.5 mL	—
Distilled water	0.2 mL	0.5 mL	0.7 mL

II Calculation

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

$\Delta A = Aa - (Ab + Ac)$
V = Total volume of reaction mixture（6.0 mL）
MW = 663.4, anhydrate free acid
6.3×10^3 = Molar extinction coefficient of NADH at 340 nm（$L \cdot mol^{-1} \cdot cm^{-1}$）
d = Light path length（1 cm）
v = Sample volume（0.5 mL）
s = Sample concentration（0.45 mg/mL）
W = Water content（%）
L = Li（%）

Reference Data



Storage

Store below -20℃. Handling during short term such as transportation is allowed at 1 - 10℃.
Store in the dark. Keep off humidity.

Cat. No./Package

Cat. No.	Package
44097900	Bulk

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