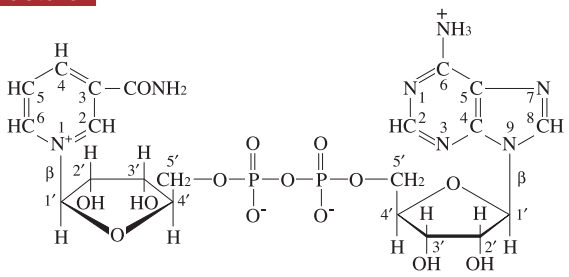
β-NAD+

β-Nicotinamide-adenine dinucleotide (=β-NAD), oxdized form (free acid)
β-Diphosphopyridine nucleotide (=β-DPN), oxdized form (free acid)
Coenzyme-I, oxidized form (free acid)

from Yeast

Structure



Formula

：$C_{21}H_{27}N_7O_{14}P_2$

Formula weight

：663.4

Specification

	Specifications
Purity	
Determined by Enzymatic Method (ADH)	≧95%
Water Content	＜8%
UV Spectral Analysis	
ε at 260 nm and pH 7.5	$(18.0 \pm 0.5) \times 10^3$
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	$(6.3 \pm 0.2) \times 10^3$
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

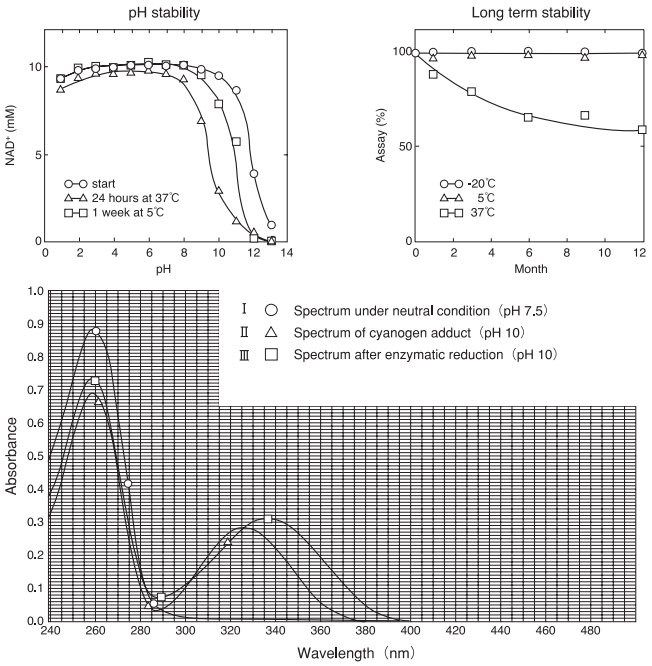
	a	b	c
Tris-EtOH (0.1 mol/L, 2.4%)	5.0 mL	5.0 mL	5.0 mL
ADH (50 IU/mL)	0.3 mL	—	0.3 mL
NAD^+ (0.45 mg/mL)	0.5 mL	0.5 mL	—
Distilled water	0.2 mL	0.5 mL	0.7 mL

Ⅱ. Calculation

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

$\Delta A = Aa - (Ab + Ac)$
V = Total volume of reaction mixture (6.0 mL)
MW = 663.4, as of anhydrate
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 (%)

Reference Data



Storage

Keep tightly stoppered in the dark below 5℃.
Moisture will accelerate the purity reduction.
For prolonged storage keep below －20℃.

OYC No./Package

OYC No.	Package
44050000	1 g
44056000	5 g
44057000	10 g
44058000	50 g
44065900	Bulk

(Research reagent use only, not for medical use.)