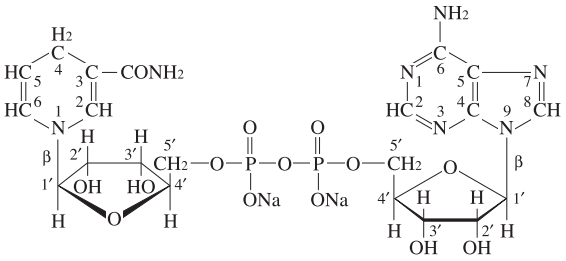
β-NADH

β-Nicotinamide-adenine dinucleotide (=β-NAD), reduced form (disodium salt)
β-Diphosphopyridine nucleotide (=β-DPN), reduced form (disodium salt)
Coenzyme-I, reduced form (disodium salt)

reduced enzymatically

Structure



Formula

：$C_{21}H_{27}N_7O_{14}P_2 \cdot Na_2$

Formula weight

：709.4

Specification

	Specifications
Purity	
Determined by Enzymatic Method (ADH)	≧95%
Water Content	＜8%
Na	6.5 ± 1.5%
UV Spectral Analysis	
ε at 260 nm and pH 10	$(14.4 \pm 0.5) \times 10^3$
ε at 340 nm and pH 10	$(6.3 \pm 0.2) \times 10^3$
Ratio at pH 10	
A_{250}/A_{260}	0.82 ± 0.03
A_{280}/A_{260}	0.23 ± 0.02
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
Acetaldehyde buffer*(1)	5.0 mL	5.0 mL	5.0 mL
ADH (50 IU/mL)	0.2 mL	—	0.2 mL
NADH (0.50 mg/mL)*(2)	0.5 mL	0.5 mL	—
Distilled water	0.3 mL	0.5 mL	0.8 mL

*(1) Mix 8 mL of acetaldehyde (1 mol/L) and 20 mL of Tris buffer (1 mol/L, pH 7.5) and then make up to 240 mL with distilled water.

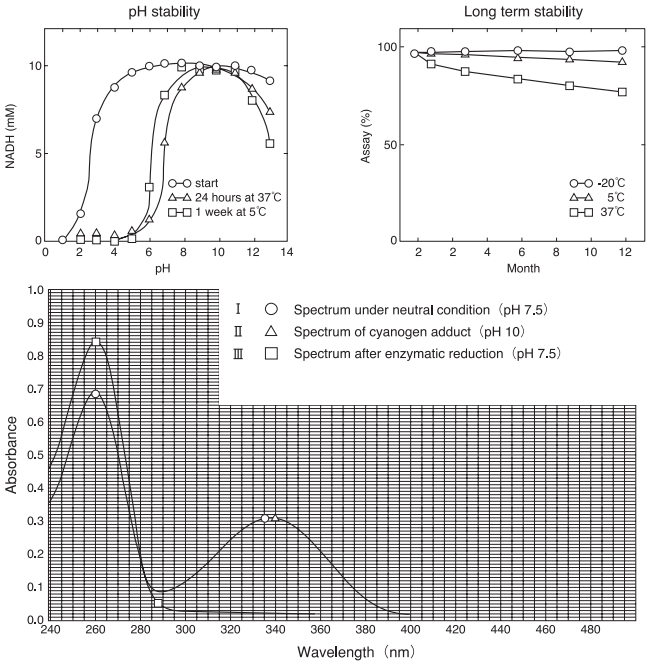
*(2) Dissolve in Tris (10 mmol/L)

Ⅱ. Calculation

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

ΔA = Ab − (Aa − Ac)
V = Total volume of reaction mixture (6.0 mL)
MW = 665.4, anhydrate/sodium free
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 (0.5 mg/mL)
S = Na (%)
W = Water Content (%)

Reference Data



Storage

Keep tightly stoppered in the dark below 5℃. Moisting NADH will form enzyme activity inhibition substance immediately.

For prolonged storage keep below −20℃. Solution is acidic and extremely sunstable. Most stable at pH 10-11.

OYC No./Package

OYC No.	Package
44320000	1 g
44326000	5 g
44327000	10 g
44320900	Bulk

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