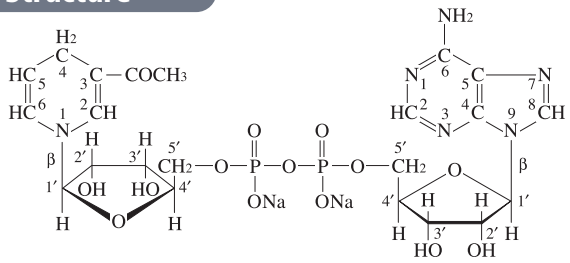
APADH

3-Acetylpyridine-adenine dinucleotide, reduced form (disodium salt)

prepared enzymatically

Structure



Formula

：$C_{22}H_{28}N_6O_{14}P_2 \cdot Na_2$

Formula Weight

：664.5（as anhydrous free acid）
：708.4（as disodium anhydrate）
：744.5（as disodium dihydrate）

Specification

Purity

Determined by Enzymatic Method（ADH） ≧ 92%

Water Content ＜ 8%

Na Content 6.0 ± 2%

UV Spectral Analysis

Ratio at pH 10

A_{250}/A_{260} 0.82 ± 0.04

A_{280}/A_{260} 0.23 ± 0.03

Assay Procedure

I Spectrophotometric Method

Wavelength ： 363 nm, Light path length ： 1 cm

Pipette the following reagents into a cuvette

	a	b	c
Acetaldehyde buffer*	5.0 mL	5.0 mL	5.0 mL
ADH（1 U/mL）	0.2 mL	—	0.2 mL
APADH（0.4 mg/mL）	0.5 mL	0.5 mL	—
Distilled water	0.3 mL	0.5 mL	0.8 mL

*83.3 mmol/L Tris-HCl, pH 7.5 containing 34 mmol/L acetaldehyde

II Calculation

$$\frac{\Delta A \cdot V \cdot MW \times 100}{9.1 \times 10^3 \cdot d \cdot v \cdot s} \times \frac{100}{(100 - S - W)} = \text{Purity of APADH}$$

$\Delta A = Ab - (Aa + Ac)$

V ＝ Total volume of reaction mixture（6.0 mL）

MW ＝ 664.5, anhydrous free acid

9.1×10^3 ＝ Molar extinction coefficient of APADH at 363 nm（$L \cdot mol^{-1} \cdot cm^{-1}$）

d ＝ Light path length（1 cm）

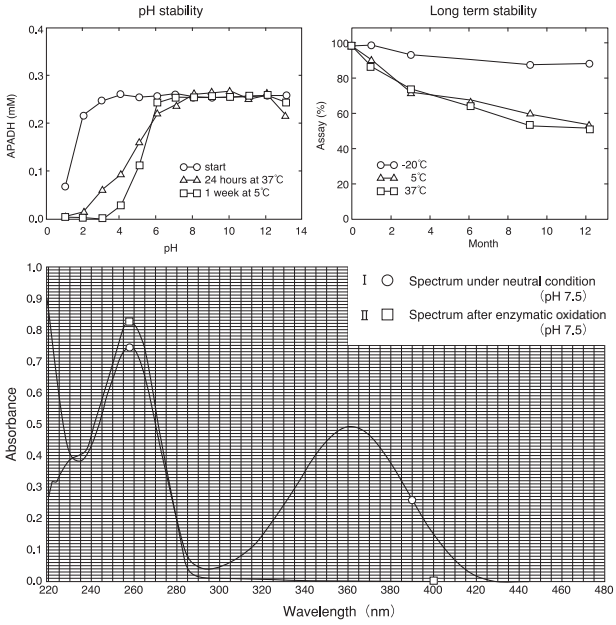
v ＝ Sample volume（0.5 mL）

s ＝ Sample concentration（0.4 mg/mL）

S ＝ Na（%）

W ＝ Water content（%）

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
44048900	Bulk

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