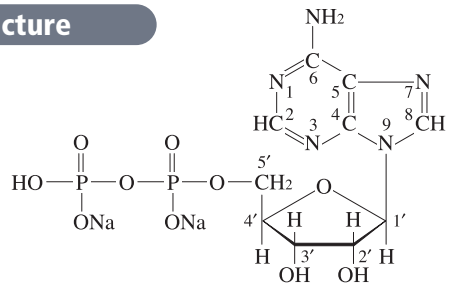
ADP

Adenosine 5′-diphosphate (disodium salt)

prepared enzymatically

Structure



Formula

：$C_{10}H_{13}N_5O_{10}P_2 \cdot Na_2$

Formula Weight

：427.2（as anhydrous free acid）
：471.2（as disodium anhydrate）
：507.2（as disodium dihydrate）

Specification

Purity

Determined by Enzymatic Method（PK, LDH）≧ 93%

Water Content	＜ 8%
Na Content	10.0 ± 2.0%
UV Spectral Analysis	
ε at 260 nm and pH 7.5	（15.4 ± 0.5）× 10^3
Ratio at pH 7.5	
A_{250}/A_{260}	0.78 ± 0.03
A_{280}/A_{260}	0.16 ± 0.02

Assay Procedure

I Spectrophotometric Method

Wavelength：340 nm, Light path length：1 cm
Pipette the following reagents into a cuvette

	a	b	c
Tris-HCl/K^+ & Mg^{2+}（0.1 mol/L, pH 7.5/0.12 mol/L & 0.012 mol/L）	5.0 mL	5.0 mL	5.0 mL
PEP*(1)（14 mg/mL）	0.1 mL	0.1 mL	—
NADH（5 mg/mL）	0.2 mL	0.2 mL	—
ADP（0.5 mg/mL）	0.5 mL	0.5 mL	—
Distilled water	—	0.1 mL	0.9 mL
LDH（50 U/mL）	0.1 mL	0.1 mL	—
PK（50 U/mL）	0.1 mL	—	0.1 mL

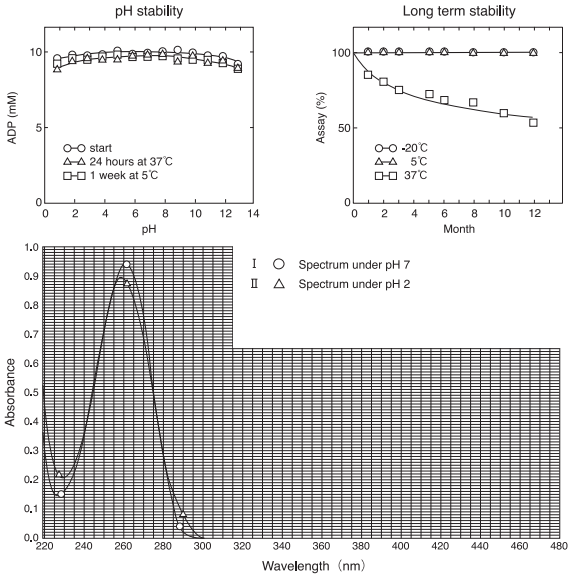
*(1) PEP monocyclohexyl ammonium salt

II Calculation

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

Δ A = (Ab + Ac) − Aa
V = Total volume of reaction mixture (6.0 mL)
MW = 427.2, anhydrous free acid
6.3×10^3 = 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 (0.5 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

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45120900	Bulk

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