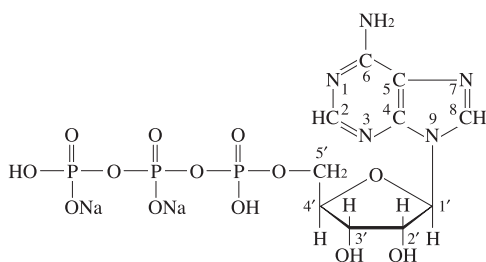


ATP

Adenosine 5'-triphosphate (disodium salt)

Crystalline

Structure



Formula : C₁₀ H₁₄ N₅ O₁₃ P₃ · Na₂

Formula weight : 551.2

Specification

Purity

Determined by Enzymatic Method
(G-6P-DH, HK)
AMP+ADP content (PK, LDH, MK)

Water Content

Na

UV Spectral Analysis

ε at 260 nm and pH 7.5

Ratio at pH 7.5

A_{250}/A_{260}

A_{280}/A_{260}

Specifications

≥95%

<1%

<12%

9.0 ± 2.0%

(15.4 ± 0.5) × 10³

0.80 ± 0.03

0.15 ± 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/Glucose & Mg ²⁺ (0.12 mol/L, pH 7.5/1.5 mg/mL & 1.2 mmol/L)	5.0 mL	5.0 mL	5.0 mL
NADP ⁺ (20 mmol/L)	0.1 mL	0.1 mL	—
ATP (0.48 mg/mL)	0.5 mL	0.5 mL	—
Distilled water	0.1 mL	0.3 mL	0.8 mL
G-6-PDH (yeast) (50 IU/mL)	0.1 mL	0.1 mL	—
HK (50 IU/mL)	0.2 mL	—	0.2 mL

II. Calculation

$$\frac{\Delta A \cdot V \cdot MW \times 100}{6.2 \times 10^3 \cdot d \cdot v \cdot s} \times \frac{100}{(100 - S - W)} = \text{Purity of ATP}$$

$$\Delta A = A_a - (A_b + A_c)$$

V = Total volume of reaction mixture (6.0 mL)

MW = 507.1, anhydrate/sodium free

6.2 × 10³ = Molar extinction coefficient of NADPH
at 340 nm (L · mol⁻¹ · cm⁻¹)

d = Light path length (1 cm)

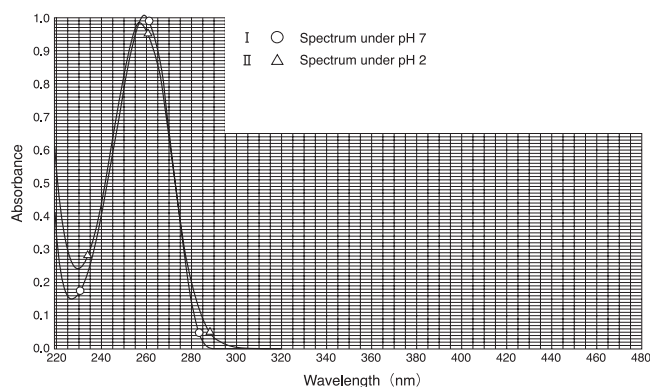
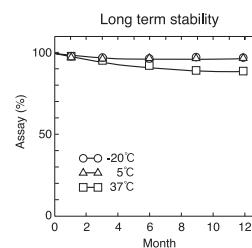
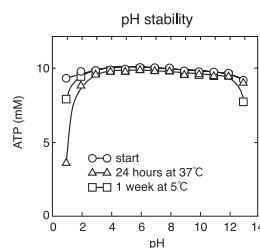
v = Sample volume (0.5 mL)

s = Sample concentration (0.48 mg/mL)

S = Na (%)

W = Water Content (%)

Reference Data



Storage

Keep tightly stoppered in the dark below 5°C.
For prolonged storage keep below -20°C.

OYC No./Package

OYC No.	Package
45140000	1 g
45142000	10 g
45147900	Bulk

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



ORIENTAL YEAST CO.,LTD.