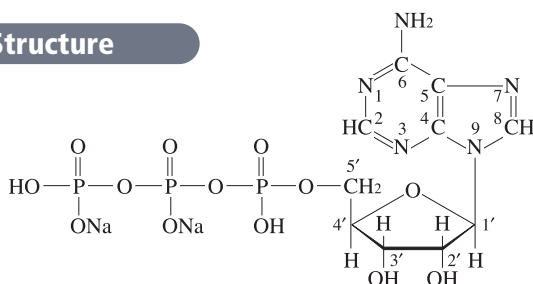


ATP

Adenosine 5'-triphosphate (disodium salt)

Structure



Formula

: $C_{10}H_{14}N_5O_{13}P_3 \cdot Na_2$

Formula Weight

: 507.2 (as anhydrous free acid)
: 551.1 (as disodium anhydrate)
: 605.2 (as disodium trihydrate)

Specification

Purity

Determined by Enzymatic Method (G6PDH, HK) $\geq 95\%$

Water Content

< 12%

Na Content

$9.0 \pm 2.0\%$

AMP+ADP Contaminants

< 1%

UV Spectral Analysis

ϵ at 260 nm and pH 7.5 $(15.4 \pm 0.5) \times 10^3$

Ratio at pH 7.5

A_{250}/A_{260} 0.80 ± 0.03

A_{280}/A_{260} 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-Glc and 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
G6PDH(Y) (50 U/mL)	0.1 mL	0.1 mL	—
HK(Y) (50 U/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 = 507.2, anhydrous free acid

6.2×10^3 = Molar extinction coefficient of NADPH
at 340 nm ($L \cdot mol^{-1} \cdot cm^{-1}$)

d = Light path length (1 cm)

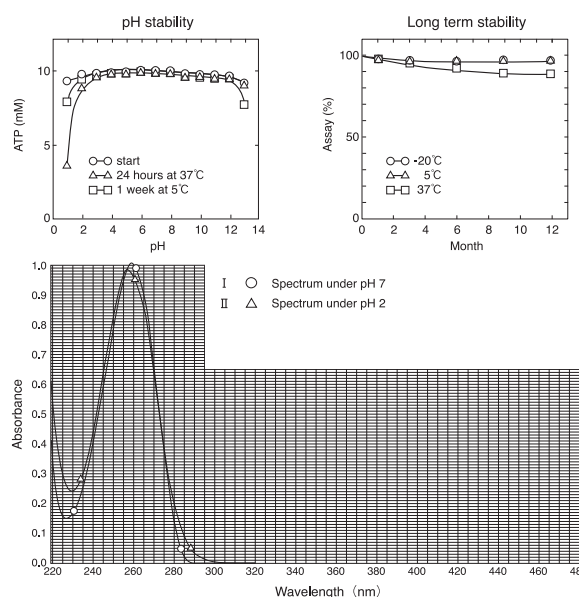
v = Sample volume (0.5 mL)

s = Sample concentration (0.48 mg/mL)

S = Na (%)

W = Water content (%)

Reference Data



Storage

Store below -20°C. Handling during short term such as transportation is allowed at 1 - 10°C.

Store in the dark. Keep off humidity.

Cat. No./Package

Cat. No.	Package	Cat. No.	Package
45142000	10 g	45140903	500 g
45140902	100 g	45140900	Bulk

For in vitro diagnostic or research use only



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