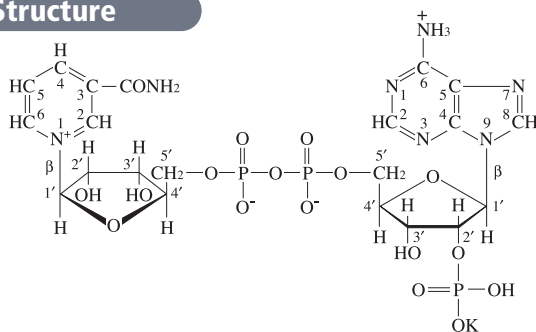


β-NADP⁺-K

β-Nicotinamide-adenine dinucleotide phosphate, oxidized form (monopotassium salt)

prepared enzymatically

Structure



Formula

: C₂₁H₂₇N₇O₁₇P₃·K

Formula Weight

: 743.4 (as anhydrous free acid)
: 781.5 (as monopotassium anhydrate)
: 817.5 (as monopotassium dihydrate)

Specification

Purity

Determined by Enzymatic Method (G6PDH) ≥ 95%

Water Content

< 8%

K Content

5.0 ± 1.5%

UV Spectral Analysis

ε at 260 nm and pH 7.5 (18.0 ± 0.8) × 10³

Ratio at pH 7.5

A₂₅₀/A₂₆₀ 0.83 ± 0.03

A₂₈₀/A₂₆₀ 0.21 ± 0.02

ε when reduced with G6PDH

at 340 nm and pH 7.5 (6.2 ± 0.3) × 10³

Ratio when reduced with G6PDH at pH 7.5

A₃₄₀/A₂₆₀ 0.43 ± 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 (0.1 mol/L, pH 7.5)	5.0 mL	5.0 mL	5.0 mL
G6P (20 mmol/L)	0.2 mL	0.2 mL	—
NADP ⁺ (0.6 mg/mL)	0.5 mL	0.5 mL	—
G6PDH (yeast) (50 U/mL)	0.1 mL	—	0.1 mL
Distilled water	0.2 mL	0.3 mL	0.9 mL

II Calculation

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

ΔA = A_a - (A_b + A_c)

V = Total volume of reaction mixture (6.0 mL)

MW = 743.4, anhydrous free acid

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

d = Light path length (1 cm)

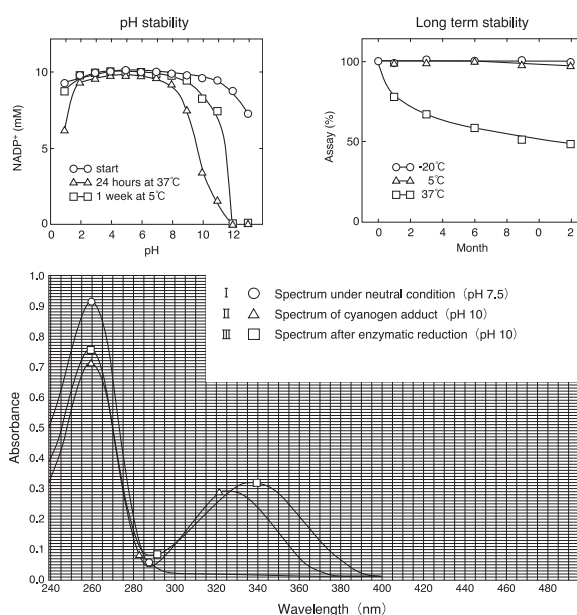
v = Sample volume (0.5 mL)

s = Sample concentration (0.6 mg/mL)

P = K (%)

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. 44310900
Package Bulk

For in vitro diagnostic or research use only



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