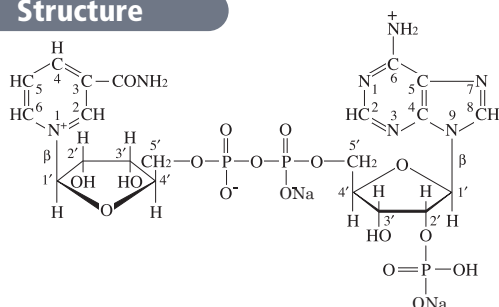


β -NADP⁺-Na₂

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

prepared enzymatically

Structure



Formula

: C₂₁H₂₆N₇O₁₇P₃•Na₂

Formula Weight

: 743.4 (as anhydrous free acid)
: 787.4 (as disodium anhydrous)
: 841.4 (as disodium trihydrate)

Specification

Purity

Determined by Enzymatic Method (G6PDH) $\geq 93\%$

Water Content

< 8%

Na Content

6.0 \pm 1.5%

UV Spectral Analysis

ϵ at 260 nm and pH 7.5 $(18.0 \pm 0.8) \times 10^3$

Ratio at pH 7.5

A_{250}/A_{260} 0.83 \pm 0.03

A_{280}/A_{260} 0.21 \pm 0.02

ϵ when reduced with G6PDH

at 340 nm and pH 7.5 $(6.2 \pm 0.3) \times 10^3$

Ratio when reduced with G6PDH at pH 7.5

A_{340}/A_{260} 0.43 \pm 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 (Y) (50 U/mL)	0.1 mL	—	0.1 mL
Distilled water	0.2 mL	0.3 mL	0.9 mL

II Calculation

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

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

V = Total volume of reaction mixture (6.0 mL)

MW = 743.4, anhydrous free acid

6.2×10^3 = 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)

S = Na (%)

W = Water content (%)

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
44300900	Bulk

For in vitro diagnostic or research use only

