

β-NADPH

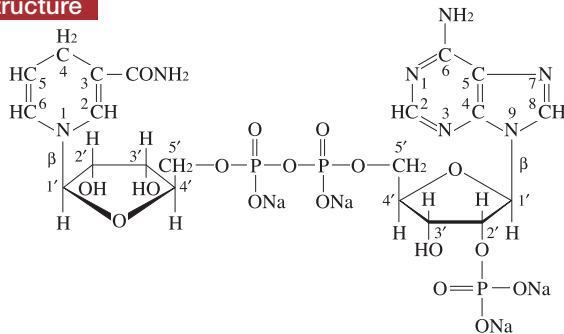
Nicotinamide-adenine dinucleotide phosphate (=NADP), reduced form (tetrasodium salt)

Triphosphopyridine nucleotide (=TPN), reduced form (tetrasodium salt)

Coenzyme-II, reduced form (tetrasodium salt)

reduced enzymatically

Structure



Formula : $C_{21}H_{26}N_7O_{17}P_3 \cdot Na_4$

Formula weight : 833.4

Specification

Purity

Determined by Enzymatic Method (GR)

Water Content

Na

UV Spectral Analysis

ϵ at 260 nm and pH 10

ϵ at 340 nm and pH 10

Ratio at pH 10

A_{340}/A_{260}

Specifications

$\geq 93\%$

$< 8\%$

$10.0 \pm 2.0\%$

$(14.4 \pm 0.7) \times 10^3$

$(6.2 \pm 0.3) \times 10^3$

0.43 ± 0.01

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
GSSG (0.1 mol/L)	0.1 mL	—	0.1 mL
NADPH dissolved in Tris (10 mmol/L) (0.6 mg/mL)	0.5 mL	0.5 mL	—
GR (50 IU/mL)	0.1 mL	—	0.1 mL
Distilled water	0.3 mL	0.5 mL	0.8 mL

II. Calculation

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

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

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

V = Total volume of reaction mixture (6.0 mL)

MW = 745.4, anhydrate/sodium free

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)

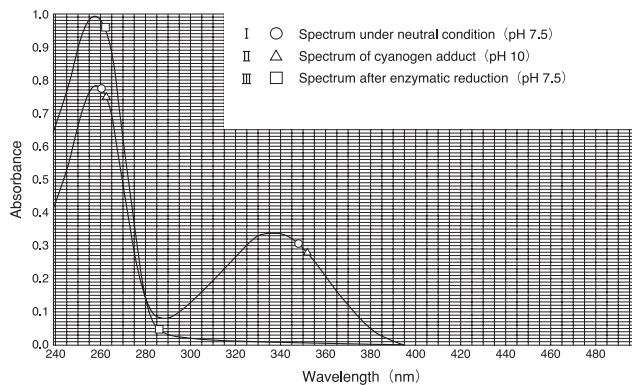
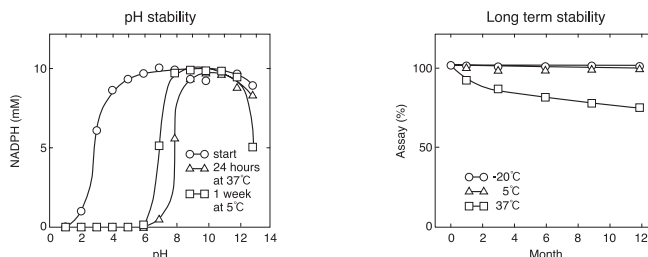
v = Sample volume (0.5 mL)

s = Sample concentration (0.6 mg/mL)

S = Na (%)

W = Water Content (%)

Reference Data



Storage

Keep tightly stoppered in the dark below 5°C.

Moisture will accelerate the purity reduction.

For prolonged storage keep below -20°C. Solution is acidic and extremely unstable. Most stable at pH 10-11.

OYC No./Package

OYC No.	Package
44330000	100 mg
44332000	1 g
44335000	5 g
44332900	Bulk

