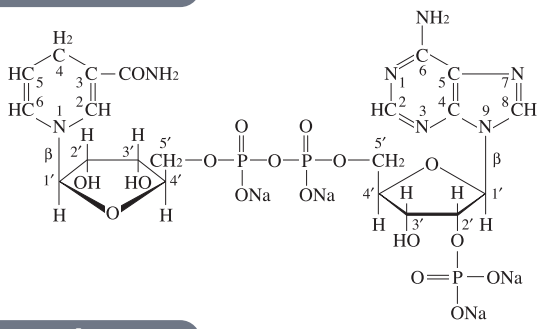
β-NADPH

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

reduced enzymatically

Structure



Formula

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

Formula Weight

: 745.4 (as anhydrous free acid)
: 833.4 (as tetrasodium anhydrate)
: 887.4 (as tetrasodium trihydrate)

Specification

Purity

Determined by Enzymatic Method (GR)	≧ 93%
Water Content	< 8%
Na Content	10.0 ± 2.0%
UV Spectral Analysis	
ε at 260 nm and pH 10	(14.4 ± 0.7) × 10^3
ε at 340 nm and pH 10	(6.2 ± 0.3) × 10^3
Ratio at pH 10	
A_{340}/A_{260}	0.43 ± 0.01

Assay Procedure

I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm
Pipette the following reagents into a cuvette

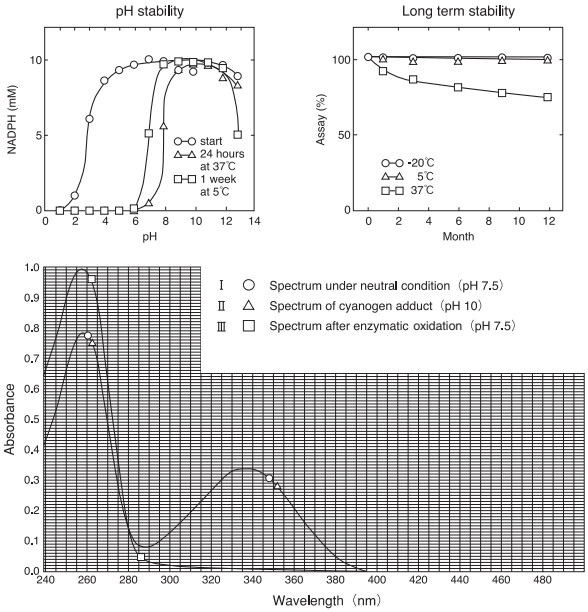
	a	b	c
Tris-HCl (0.1 mol/L, pH 7.5)	5.0 mL	5.0 mL	5.0 mL
GSSG (0.1 mol/L)	0.1 mL	—	0.1 mL
NADPH (0.6 mg/mL)	0.5 mL	0.5 mL	—
GR (50 U/mL)	0.1 mL	—	0.1 mL
Distilled water	0.3 mL	0.5 mL	0.8 mL

II Calculation

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

$\Delta A = (Ab + Ac) - Aa$
V = Total volume of reaction mixture (6.0 mL)
MW = 745.4, 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 (0.6 mg/mL)
S = Na (%)
W = Water content (%)

Reference Data



Storage

Store below -20 ℃. Handling during short term such as transportation is allowed at 1 - 10 ℃.
Store in the dark. Keep off humidity.

Cat. No./Package

Cat. No.	Package	Cat. No.	Package
44330000	100 mg	44332900	Bulk
44335000	5 g		

For in vitro diagnostic or research use only