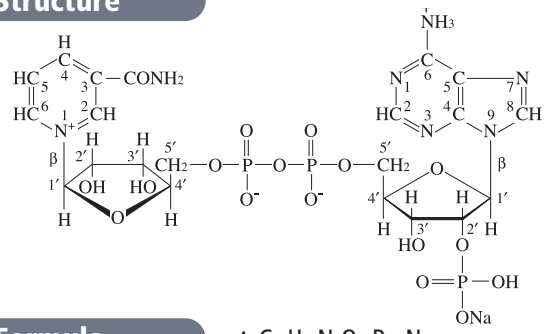
# β-NADP+

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

*prepared enzymatically*

### Structure



### Formula

: $C_{21}H_{27}N_7O_{17}P_3 \cdot Na$

### Formula Weight

: 743.4 (as anhydrous free acid)
: 765.4 (as monosodium anhydrate)
: 801.4 (as monosodium dihydrate)

### Specification

**Purity**

| | |
|---|---|
| Determined by Enzymatic Method (G6PDH) | ≧ 93% |

**Water Content** ＜ 8%

**Na Content** 3.0 ± 1.5%

**UV Spectral Analysis**

| | |
|---|---|
| ε at 260 nm and pH 7.5 | (18.0 ± 0.8) × $10^3$ |
| Ratio at pH 7.5 | |
| $A_{250}/A_{260}$ | 0.83 ± 0.03 |
| $A_{280}/A_{260}$ | 0.21 ± 0.02 |
| ε when reduced with G6PDH at 340 nm and pH 7.5 | (6.2 ± 0.3) × $10^3$ |
| Ratio when reduced with G6PDH at pH 7.5 | |
| $A_{340}/A_{260}$ | 0.43 ± 0.02 |

### Assay Procedure

#### I Spectrophotometric Method

Waveleng : 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

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

$\Delta A = Aa - (Ab + Ac)$

V = Total volume of reaction mixture (6.0 mL)

MW = 743.4, anhydrous free acid

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

d = Light path length (1 cm)

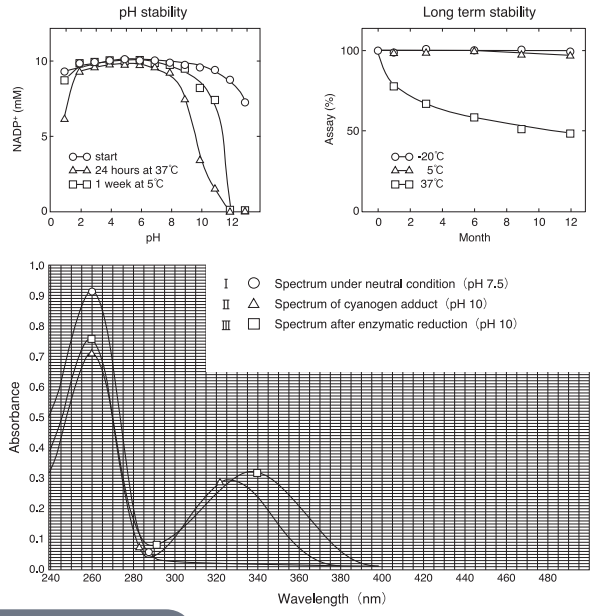
v = Sample volume (0.5 mL)

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 |
|---|---|---|---|
| 44290000 | 100 mg | 44298000 | 10 g |
| 44292000 | 1 g | 44292900 | Bulk |
| 44297000 | 5 g | | |

For in vitro diagnostic or research use only