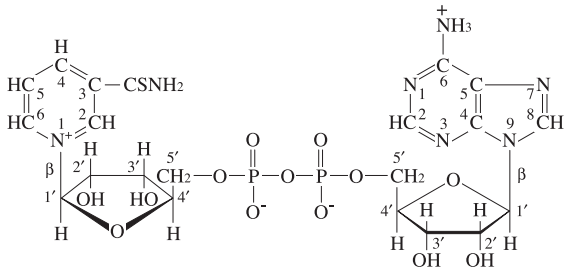
Thio-NAD+

Thionicotinamide-adenine dinucleotide, oxidized form

prepared enzymatically

Structure



Formula

: $C_{21}H_{27}N_7O_{13}P_2S$

Formula Weight

: 679.5 (as anhydrous free acid)
: 697.5 (as monohydrate)

Specification

Purity

Determined by Enzymatic Method (ADH)	≧ 92%

Water Content ＜ 10%

UV Spectral Analysis

Ratio at pH 7.5

A_{250}/A_{260}	0.89 ± 0.03
A_{280}/A_{260}	0.36 ± 0.02

Assay Procedure

I Spectrophotometric Method

Wavelength : 398 nm, Light path length : 1 cm

Pipette the following reagents into a cuvette

2.60 mL	Tris-EtOH (0.1 mol/L, 2.4%)	
0.25 mL	Thio-NAD+ (0.45 mg/mL) measure the absorbance at 398 nm	Aa
0.15 mL	ADH (2 U/mL) measure the absorbance at 398 nm	Ab
0.15 mL	ADH (2 U/mL) measure the absorbance at 398 nm	Ac

II Calculation

$$\frac{\Delta A \cdot V \cdot MW \times 100}{11.9 \times 10^3 \cdot d \cdot v \cdot s} \times \frac{100}{(100 - W)} = \text{Purity of Thio-NAD}^+$$

$\Delta A = (Ab \times 3.00/3.15 - Aa \times 2.85/3.15) - (Ac - Ab \times 3.00/3.15)$

V = Total volume of reaction mixture (3.15 mL)

MW = 679.5, anhydrous free acid

11.9×10^3 = Molar extinction coefficient of Thio-NADH at 398 nm ($L \cdot mol^{-1} \cdot cm^{-1}$)

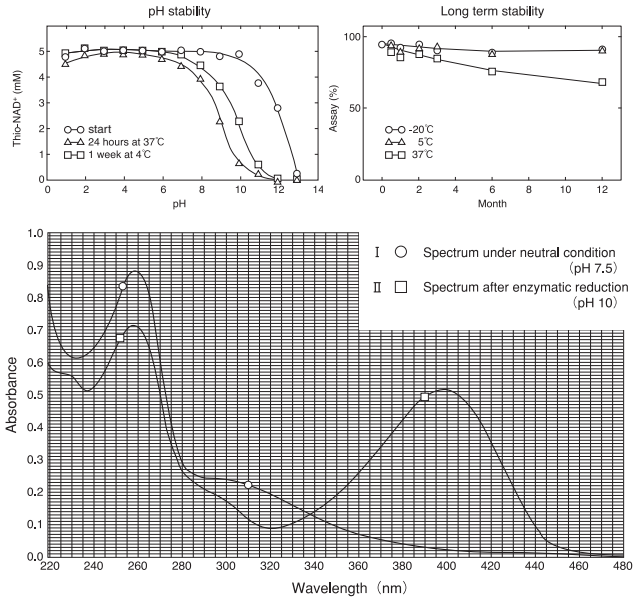
d = Light path length (1 cm)

v = Sample volume (0.25 mL)

s = Sample concentration (0.45 mg/mL)

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.	Package
44104001	1 g
44104900	Bulk

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