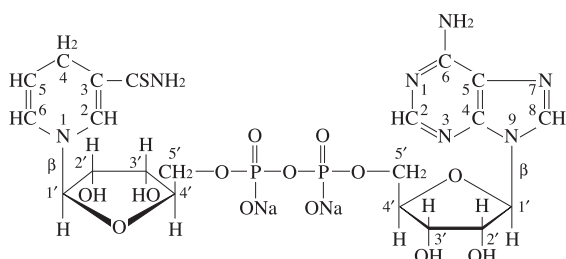


# Thio-NADH

Thionicotinamide-adenine dinucleotide, reduced form (disodium salt)

*prepared enzymatically*

## Structure



## Formula

:  $C_{21}H_{29}N_7O_{13}P_2S$

## Formula Weight

: 681.5 (as anhydrous free acid)  
: 725.5 (as disodium anhydrate)  
: 779.5 (as disodium trihydrate)

## Specification

### Purity

Determined by Enzymatic Method (ADH)  $\geq 90\%$

### Water Content

< 10%

### Na Content

$6.0 \pm 3.0\%$

### UV Spectral Analysis

Ratio at pH 7.5

$A_{250}/A_{260} \quad 0.86 \pm 0.05$

$A_{280}/A_{260} \quad 0.39 \pm 0.03$

## Assay Procedure

### I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm

Pipette the following reagents into a cuvette

2.75 mL	Acetaldehyde buffer* (1)	
0.25 mL	Thio-NAD <sup>+</sup> (0.4 mg/mL)* (2)	
	measure the absorbance at 398 nm	Aa
0.10 mL	ADH (1,780 U/mL)	
	measure the absorbance at 398 nm	Ab
0.10 mL	ADH (1,780 U/mL)	
	measure the absorbance at 398 nm	Ac

\* (1) Mix 0.2 mol/L Acetaldehyde and 0.1 mol/L Tris-HCl pH 7.5.

\* (2) Dissolve in Tris (10 mmol/L)

## II Calculation

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

$$\Delta A = (Aa \times 3.00/3.20 - Ab \times 3.10/3.20) - (Ac - Ab \times 3.10/3.20)$$

V = Total volume of reaction mixture (3.20 mL)

MW = 681.5, anhydrous free acid

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

d = Light path length (1 cm)

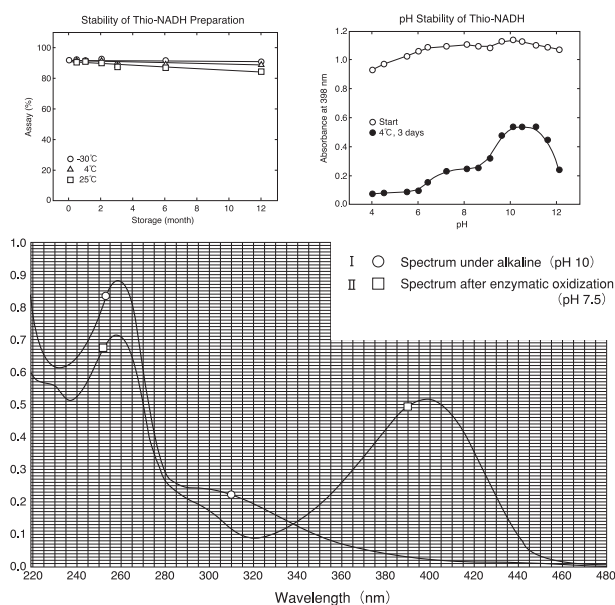
v = Sample volume (0.25 mL)

s = Sample concentration (0.4 mg/mL)

S = Na (%)

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  
44317900   Bulk

For in vitro diagnostic or research use only



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