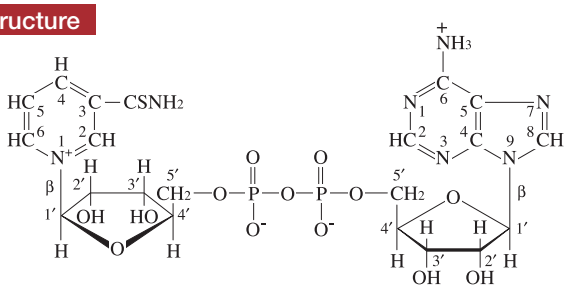
Thio-NAD$^+$

Thionicotinamide-adenine dinucleotide, oxidized form

prepared enzymatically

Structure



Formula

：$C_{21}H_{27}N_7O_{13}SP_2$

Formula weight

：679.5

Specification

	Specifications
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,
Temperature ; 37℃

Pipette the following reagents into a cuvette

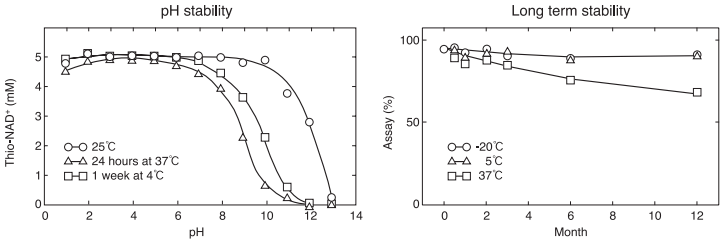
2.60 mL	Tris-EtOH (0.1 mol/L, 2.4%)	
0.25 mL	Thio-NAD$^+$ (0.448 mg/mL)	
	measure the absorbance at 398 nm	Aa
0.15 mL	ADH (2 IU/mL)	
	measure the absorbance at 398 nm	Ab
0.15 mL	ADH (2 IU/mL)	
	measure the absorbance at 398 nm	Ac

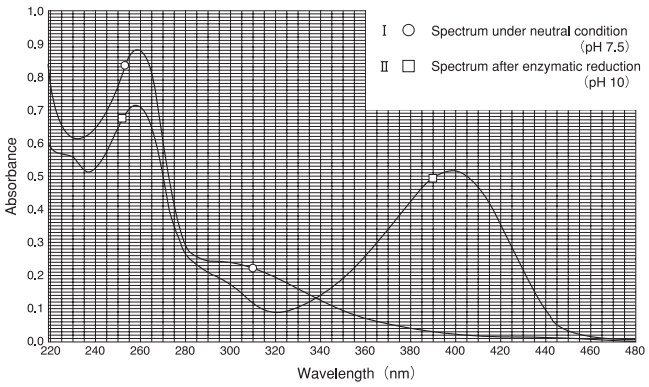
Ⅱ. Calculation

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

$\Delta A = (Ab \times 3.00/3.15 - Aa \times 2.85/3.15)$
V = Total volume of reaction mixture (3.15 mL)
MW = 679.5, as of anhydrate
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

Keep tightly stoppered in the dark below 5℃.
Moisture will accelerate the purity reduction.
For prolonged storage keep below − 20℃.

OYC No./Package

OYC No.	Package
44401000	100 mg
44104001	1 g
44104900	Bulk

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