

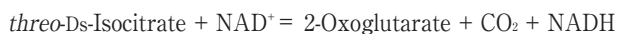
rICDH (NAD)

Isocitrate dehydrogenase(NAD⁺), recombinant from bacteria

threo-Ds-Isocitrate : NAD⁺ oxidoreductase (decarboxylating) (EC 1.1.1.41)

Host cell : E. coli

Reaction Equation



Specification

Specific Activity

IU/mg protein

Contaminants

Isocitrate dehydrogenase (NADP⁺)

Specifications

>40 units

<5%

Profile

pH stability : pH 5.5 - 8.0 (4°C, 1 week)

Thermal stability : ≤45°C (pH 7.0, 15 min)

Optimum pH : 8.0 - 9.0

Optimum temperature : ≥60°C

K_m value : 0.09 mmol/L (NAD⁺)

0.03 mmol/L (D-Isocitrate)

MW : 40 kD (SDS-PAGE)

Assay Procedure

I. Spectrophotometric Method

Wavelength ; 340 nm, Light path length ; 1 cm,

Temperature ; 25°C

Pipette the following reagents into a cuvette

3.00 mL Tris-HCl buffer (88 mmol/L, pH 8.5, 25°C)
containing MgCl₂ (5 mmol/L),
NAD⁺ (1 mmol/L),
D-Isocitrate (1.7 mmol/L)

0.02 mL rICDH (NAD) (about 3 IU/mL)

II. Calculation

$$\frac{\Delta A/\text{min} \cdot V \cdot D}{6.3 \cdot d \cdot v} = \text{IU/mL}$$

ΔA/min = The change in absorbance at 340 nm/minute

V = Total volume of reaction mixture (3.02 mL)

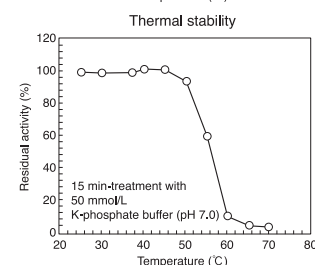
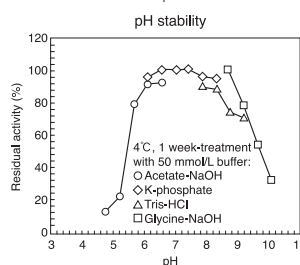
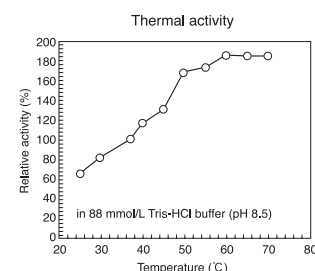
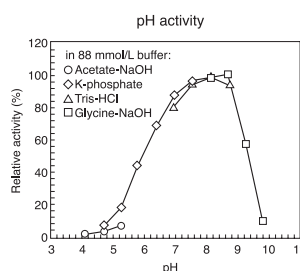
D = Enzyme dilution factor

6.3 = mM extinction coefficient of NADH
(L · mmol⁻¹ · cm⁻¹)

d = Light path length (1 cm)

v = Volume of enzyme sample (0.02 mL)

Reference Data



Preparation and storage

Product Code : rICDH (NAD⁺)-03

Lyophilized powder (contains no ammonium sulfate)

.....below -20°C

OYC No./Package

OYC No.	Package
46475003	150 units
46476003	600 units
46477003	3,000 units
46475903	Bulk

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



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