rICDH(Taq)

recombinant Isocitrate dehydrogenase ($NADP^+$) EC 1.1.1.42

from Bacteria

Reaction Equation

D-Isocitrate + $NADP^+$

$\rightleftarrows$ α-Ketoglutarate + CO_2 + NADPH + H^+

Specification

Specific Activity

U/mg protein > 20 units

Contaminants

NADPH oxidase < 0.01%

Phosphatase < 0.00015%

Properties

pH stability : pH 6.5 - 8.5 (25 °C, 1 week)

Thermal stability : ≦ 65 °C (pH 8.0, 10 min)

Optimum pH : 8.5

Optimum temp. : ≧ 37 °C

Km value : 6.0×10^{-5} mol/L (Isocitrate)

5.5×10^{-5} mol/L ($NADP^+$)

Molecular weight : 40 kDa (SDS-PAGE)

Assay Procedure

I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm

Final volume : 2.87 mL, Temperature : 25 °C

Pipette the following reagents into a cuvette

2.50 mL	Tris-HCl buffer (0.1 mol/L, pH 8.5)
0.15 mL	$MgCl_2$ (0.1 mol/L)
0.05 mL	Isocitrate (0.1 mol/L)
0.15 mL	$NADP^+$ (20 mmol/L)
0.02 mL	rICDH (Taq) (approx. 3 U/mL)

II Calculation

$$\frac{\Delta\ A/min \cdot V \cdot D}{6.2 \cdot d \cdot v} = U/mL$$

Δ A/min = The change in absorbance at 340 nm/minute

V = Total volume of reaction mixture (2.87 mL)

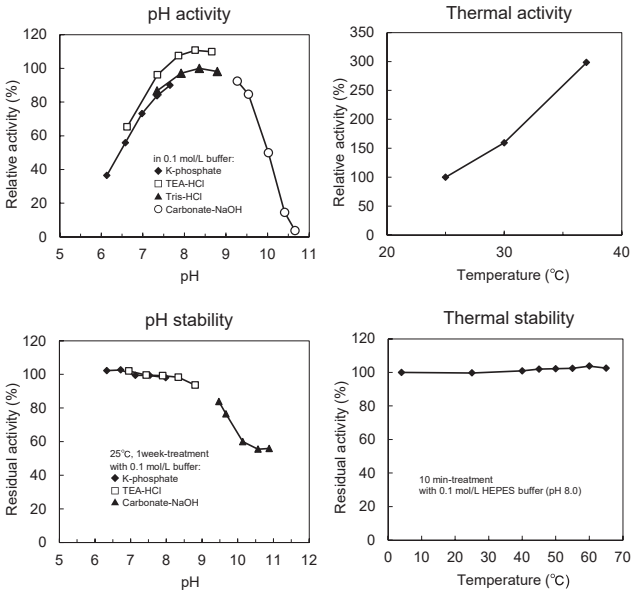
D = Enzyme dilution factor

6.2 = mmol/L extinction coefficient of NADPH ($L \cdot mmol^{-1} \cdot cm^{-1}$)

d = Light path length (1 cm)

v = Volume of enzyme sample (0.02 mL)

Reference Data



Preparation and Storage

Lyophilized powder (Ammonium sulfate free)

Store below -20 °C

Cat. No./Package

Cat. No.	Package
46746903	Bulk

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