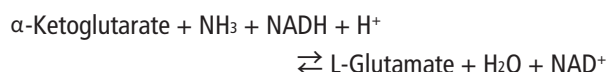


rGIDH(NAD)

recombinant Glutamate dehydrogenase (NAD⁺) EC 1.4.1.2

from *Bacteria*

Reaction Equation



Specification

Specific Activity

U/mg protein > 350 units
(for reduction of α -Ketoglutarate to L-Glutamate)

Contaminants

NADH oxidase < 0.01%
Lactate dehydrogenase < 0.003%
Malate dehydrogenase < 0.003%
Alcohol dehydrogenase < 0.003%

Properties

pH stability : pH 7.5 (37°C 1week)
Thermal stability : $\leq 60^\circ\text{C}$ (pH 7.8, 10 min)
Optimum pH : 7.4 - 7.8
Optimum temp. : 45°C
Km value : 3.0×10^{-2} mol/L (α -Ketoglutarate)
 1.7×10^{-4} mol/L (NADH)
 2.0×10^{-2} mol/L (Ammonium chloride)
 1.6×10^{-2} mol/L (L-Glutamate)
 1.5×10^{-4} mol/L (NAD⁺)
Molecular weight : 48 kDa (SDS-PAGE)

Assay Procedure

I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm
Final volume : 3.02 mL, Temperature : 30°C

Pipette the following reagents into a cuvette

2.60 mL	Tris-HCl buffer (0.1 mol/L, pH 7.8)
0.10 mL	α -Ketoglutarate (0.33 mol/L)
0.10 mL	NADH (7.5 mmol/L)
0.20 mL	Ammonium chloride (2.0 mol/L)
0.02 mL	rGIDH (NAD) (approx. 1.9 U/mL)

II Calculation

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

$\Delta A/\text{min}$ = The change in absorbance at 340 nm/minute

V = Total volume of reaction mixture (3.02 mL)

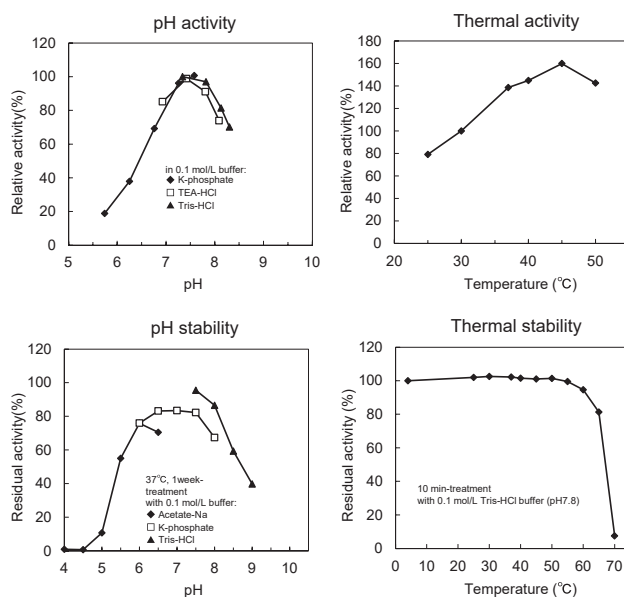
D = Enzyme dilution factor

6.3 = mmol/L extinction coefficient of NADH
($\text{L} \cdot \text{mmol}^{-1} \cdot \text{cm}^{-1}$)

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
46874903 Bulk

