

# rGIDH(NADP)

recombinant Glutamate dehydrogenase (NADP<sup>+</sup>) EC 1.4.1.4

*from Bacteria*

## Reaction Equation



## Specification

### Specific Activity

U/mg protein > 60 units  
(for reduction of  $\alpha$ -Ketoglutarate to L-Glutamate)

### Contaminants

Glucose 6-phosphate dehydrogenase < 0.02%  
Phosphogluconate dehydrogenase < 0.1%  
Glutamate dehydrogenase (NAD<sup>+</sup>) < 0.03%  
Glutathione reductase < 0.02%  
NADPH oxidase < 0.003%

## Properties

pH stability : pH 5.0 - 10.5 (25 °C, 1 week)  
Thermal stability :  $\leq$  70 °C (pH 7.5, 10 min)  
Optimum pH : 7.5 - 8.0  
Optimum temp. :  $\geq$  70 °C  
Km value :  $2.5 \times 10^{-2}$  mol/L (L-Glutamate)  
 $6.4 \times 10^{-5}$  mol/L (NADP<sup>+</sup>)  
 $4.1 \times 10^{-4}$  mol/L ( $\alpha$ -Ketoglutarate)  
 $2.4 \times 10^{-5}$  mol/L (NADPH)  
 $4.7 \times 10^{-5}$  mol/L (Ammonium acetate)  
Molecular weight : 46 kDa (SDS-PAGE)

## Assay Procedure

### I Spectrophotometric Method

Wavelength : 340 nm, Light path length : 1 cm  
Final volume : 3.02 mL, Temperature : 25 °C

Pipette the following reagents into a cuvette

2.50 mL	Triethanolamine-HCl buffer (0.1 mol/L, pH 7.6)
0.15 mL	$\alpha$ -Ketoglutarate (0.1 mol/L)
0.05 mL	NADPH (12 mmol/L)
0.30 mL	Ammonium acetate (2 mol/L)
0.02 mL	rGIDH(NADP) (approx. 3 U/mL)

## II Calculation

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

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

V = Total volume of reaction mixture (3.02 mL)

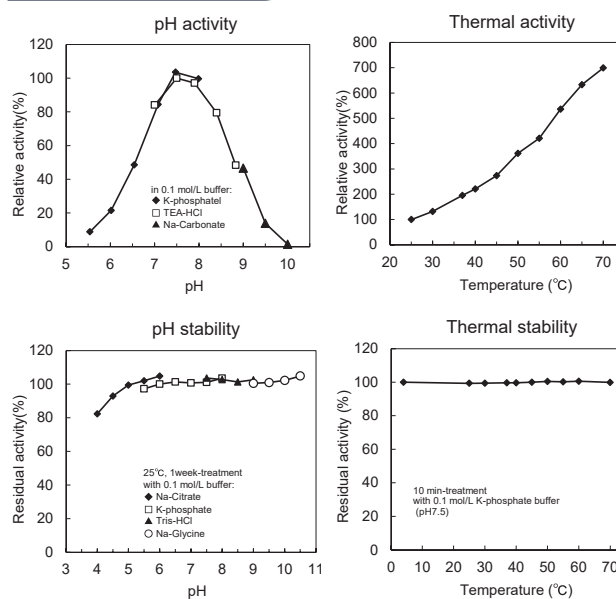
D = Enzyme dilution factor

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

d = Light path length (1 cm)

v = Volume of enzyme sample (0.02 mL)

## Reference Data



## Preparation and Storage

Solution

Store at 1 - 10 °C

## Cat. No./Package

Cat. No. Package  
46754904 Bulk

For in vitro diagnostic or research use only