

# rUrease

## Urease, recombinant from bacteria

Urea amidohydrolase (EC 3.5.1.5)

*Host cell : E. coli*

### Reaction Equation



### Specification

#### Specific Activity

IU/mg protein

#### Contaminants

NADPH oxidase

#### Specifications

>150 units

<0.001%

### Profile

pH stability : pH 8.0 - 9.5 (37°C, 1 week)  
 Thermal stability :  $\leq 65^\circ\text{C}$  (pH 8.0, 10 min)  
 Optimum pH : 6.0  
 Optimum temperature :  $\geq 37^\circ\text{C}$   
 Km value : 194 mmol/L (Urea)  
 MW : 60.3 kD  $\alpha$  subunit, 11.7 kD  $\beta$  subunit,  
 11.1 kD  $\gamma$  subunit (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 Triethanolamine-HCl buffer (0.1 mol/L, pH 7.0)  
 containing Urea (1 mol/L),  
 2-Oxoglutarate (5 mmol/L),  
 NADPH (0.24 mmol/L),  
 GIDH (20 IU/mL)  
 0.02 mL rUrease (about 1.5 IU/mL)

#### II. Calculation

$$\frac{\Delta A/\text{min} \cdot V \cdot D}{6.2 \cdot d \cdot v \cdot 2} = \text{IU/mL}$$

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

V = Total volume of reaction mixture (3.02 mL)

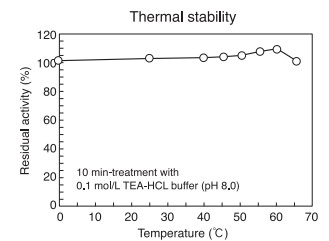
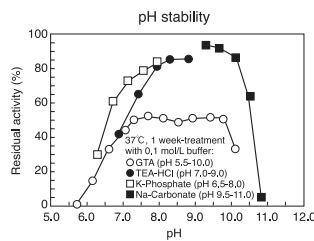
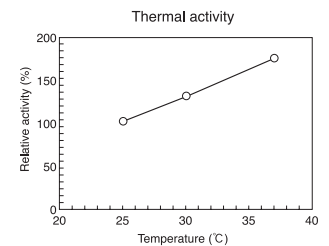
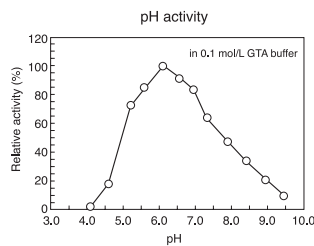
D = Enzyme dilution factor

6.2 = mM 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

Product Code : rUrease-03

Lyophilized powder (contains no ammonium sulfate)

.....below  $-20^\circ\text{C}$

IU per 1 mg powder is approximately 50 units.

### OYC No./Package

OYC No.	Package
46753000	1,000 units
46753900	Bulk

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

