# rUrease

## recombinant Urease EC 3.5.1.5

*from Bacteria*

### Reaction Equation

Urea + $H_2O$ + $2H^+ \rightarrow 2NH_4^+ + CO_2$

### Specification

**Specific Activity**

U/mg protein > 150 units

**Contaminants**

NADPH oxidase < 0.001%

### Properties

pH stability : pH 8.0 - 9.5 (37 °C, 1 week)
Thermal stability : ≦ 65 °C (pH 8.0, 10 min)
Optimum pH : 6.0
Optimum temp. : ≧ 37 °C
Km value : 1.94 × $10^{-5}$ mmol/L (Urea)
Molecular weight : 60.3 kDa α subunit, 11.7 kDa β subunit, 11.1 kDa γ 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

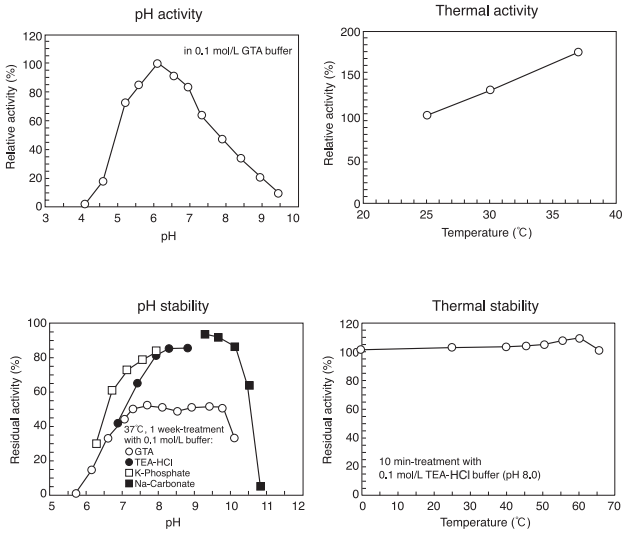
| | |
|---|---|
| 3.00 mL | Triethanolamine-HCl buffer (0.1 mol/L, pH 7.0) containing Urea (1 mol/L)<br>α-Ketoglutarate (5 mmol/L)<br>NADPH (0.24 mmol/L)<br>GlDH (20 U/mL) |
| 0.02 mL | rUrease (approx. 1.5 U/mL) |

#### II Calculation

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

Δ A/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 ($L \cdot mmol^{-1} \cdot cm^{-1}$)
d = Light path length (1 cm)
v = Volume of enzyme sample (0.02 mL)

### Reference Data




### Preparation and Storage

Lyophilized powder
Store below -20 °C

### Cat. No./Package

| Cat. No. | Package |
|---|---|
| 46753000 | 1,000 units |
| 46753900 | Bulk |

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