AUrease (URH)

U1492281

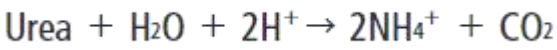
Storage temperature

-20℃.

Product description

Ureases, functionally, belong to the superfamily of amidohydrolases and phosphotrie st-erases. It is an enzyme that catalyzes the hydrolysis of urea into carbon dioxide and ammonia.

Reaction Equation



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

Specification

Specific Activity: >150 U/mg protein.

Contaminants

NADPH oxidase: <0.001%.

Properties

pH stability: pH 8.0-9.5 (37°C, 1 weeks).

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 λ 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)、α-Ketoglutarate (5 mmol/L)、NADPH (0.24 mmol/L)、GIDH (20 U/mL).

0.02 mL: rUrease (approx. 1.5 U/mL).

II.Calculation

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

ΔA/min: The change in absorbance at 340 nm per 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