

FUJIFILM

Wako

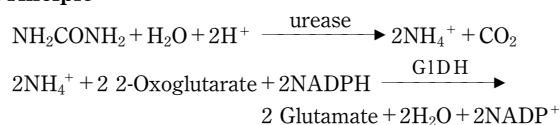
Code No. 216-00783 (500 mg)
210-00781 (1 g)

Urease, from Jack Bean ウレアーゼ, ナタ豆由来

Source : Jack bean
Form : Lyophilized form
Activity : indicated on the label
Molecular weight : 480,000
Optimal pH : 6.0
Optimal temperature : 60°C
Isoelectric point : 5.0~5.1

Assay method

1. Principle



2. Reagents

- 0.05 mol/L Tris-hydrochloric acid buffer, pH 8.0 69 mL
0.25 mol/L 2-oxoglutarate solution (distilled water) 0.3 mL
0.015 mol/L NADPH solution (distilled water) 1.8 mL
Distilled water 0.9 mL
- Glutamate dehydrogenase solution (not containing ammonia), approximately 1,000 units/mL (distilled water)
- 0.01 mol/L phosphate buffer, pH 7.0 (containing 0.02 mol/L EDTA)
- Enzyme solution (prepare a 0.0005 mg/mL solution by diluting with Reagent C.)
- 6 mol/L Urea solution (distilled water)

Trans *

2. 試薬

- 0.05 mol/L トリス塩酸緩衝液, pH 8.0 69 mL
0.25 mol/L 2-オキソグルタル酸溶液 (蒸留水) 0.3 mL
0.015 mol/L NADPH 溶液 (蒸留水) 1.8 mL
蒸留水 0.9 mL
- グルタミン酸脱水素酵素溶液 (アンモニアを含有しないもの) 約 1,000 units/mL (蒸留水)
- 0.01 mol/L リン酸塩緩衝液, pH 7.0 (0.02 mol/L EDTA を含む)
- 酵素液 (試薬 C で希釈して 0.0005 mg/mL とする)
- 6 mol/L 尿素溶液 (蒸留水)

3. Procedure

Reagent	Test	Control
A (24 mL)	2.8 mL	2.8 mL
B (0.5 mL)		
Distilled water (3.5 mL)		
D	0.1 mL	—
C	—	0.1 mL
Preheating at 37°C for 5 minutes		
E	0.1 mL	0.1 mL
The change in the absorbance at a wavelength of 340 nm at 37°C from 5 minutes after to 10 minutes after is recorded. The change in the absorbance for 1 minute is specified as ΔA.		
Trans *		
37°C で 5~10 分間後の 340 nm における吸光度変化を記録し、1 分間あたりの吸光度変化 ΔA とする。		

4. Unit definition

The amount of enzyme hydrolyzing 1 μmol of urea at 37°C within one minute under the above-mentioned reaction conditions is specified as 1 unit.

Trans *

4. 単位の定義

前記の条件下で 37°C、1 分間に 1 μmol の尿素を加水分解する酵素量を 1 unit とする。

(Calculation)

$$\text{units/mg} = (\Delta A_{\text{test}} - \Delta A_{\text{control}}) \times \frac{1}{6.22} \times \frac{1}{2} \times 3.0 \times \frac{1}{0.1 \times 0.0005}$$

6.22 : millimolar absorptivity of NADPH

2 : coefficient related to the fact that for every molecule of urea hydrolysed two molecules of NADPH are oxidised

3.0 : total volume of solution (mL)

0.1 × 0.0005 : sample volume (mg)

[Storage] −20℃.

[Package]

Code No.	Packaging
216-00783	500 mg
210-00781	1 g

[Reference]

Sumner, J. B. : The Enzymes (1st ed.), **1**, 873 (1951).

* : **Trans** is the Japanese translation.

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