

FUJIFILM

Wako

Code No. 074-02401 (20,000 units)

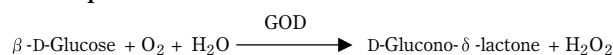
Glucose Oxidase (GOD)

グルコースオキシダーゼ (GOD)

Source	: <i>Aspergillus niger</i>
Physical Form	: Lyophilized powder
Activity	: Indicated in the label
Molecular weight	: 186,000
Optimal pH	: 5.6
Optimal temperature	: 30–40 °C

Assay method

1. Principle



2. Reagents

A. 0.1 mol/L Phosphate buffer, pH 7.0

B. 0.2 mmol/L *o*-Dianisidine solution

Dissolve 6.6 mg of *o*-Dianisidine with 1 mL of water, and add 100 mL of Reagent A to it. And then oxygenate it for 5 minutes.

C. Peroxidase solution

Dissolve 10 mg of Peroxidase from horseradish with Reagent A to be 2 mL.

D. 100 g/L Glucose solution

Dissolve 1 g of D(+)-Glucose with distilled water to be 10 mL. Stand it for 1 hour.

E. GOD Solution

Dilute this vial with Reagent A to be 0.0008 mg/mL.

*Trans

試 薬

- A. 0.1 mol/L リン酸塩緩衝液, pH 7.0
- B. 0.2 mmol/L *o*-ジアニシジン溶液 (*o*-ジアニシジン二塩酸塩 6.6 mg を水 1 mL に溶かした後, 試薬 A を用いて 100 mL とし, 酸素を 5 分間通じる.)
- C. ペルオキシダーゼ溶液 (ペルオキシダーゼ, 西洋わさび由来 10 mg を試薬 A に溶かし 2 mL にする.)
- D. 100 g/L グルコース溶液 [D (+)-グルコース 1 g を蒸留水に溶かし 10 mL とし, 1 時間放置する.]
- E. GOD 液 (試薬 A で希釈して 0.0008 mg/mL とする.)

3. Procedure

Reagent	Test	Control
B 24 mL C 1 mL D 5 mL	3 mL	3 mL
Pre-incubate at 25°C		
E	0.1 mL	—
A	—	0.1 mL

Measure the absorbance change in 436 nm of wavelength for 5 minutes at 25°C with water as control. And calculate the absorbance change per minute (ΔA) between the first linear range.

*Trans

波長 436 nm, 水を対照として 25°C で 5 分間の吸光度変化を記録し, その初期直線部より 1 分間当たりの吸光度変化を求め ΔA とする.

4. Unit definition

One unit is the amount of enzyme which produce 1 μmol of D-Glucono- δ -lactone per minute at 25°C.

(Calculation)

$$\begin{aligned}\text{units/mg} &= (\Delta A \text{ test} - \Delta A \text{ control}) \times \frac{1}{8.3} \times 3.1 \times \frac{1}{0.0008 \times 0.1} \\ &= (\Delta A \text{ test} - \Delta A \text{ control}) \times \frac{1}{8.3} \times 3.1 \times \frac{1}{0.00008}\end{aligned}$$

8.3 : Milli-molar extinction coefficient of quinone dye

3.1 : Total volume (mL)

0.00008 : Sample mass (mg)

*Trans

単位の定義

前記の条件下で 25°C, 1 分間に 1 μmol のD-グルコノ- δ -ラクトンを生成する酵素量を 1 unit とする.

(計 算)

$$\begin{aligned}\text{units/mg} &= (\Delta A \text{ test} - \Delta A \text{ control}) \times \frac{1}{8.3} \times 3.1 \times \frac{1}{0.0008 \times 0.1} \\ &= (\Delta A \text{ test} - \Delta A \text{ control}) \times \frac{1}{8.3} \times 3.1 \times \frac{1}{0.00008}\end{aligned}$$

8.3 : キノン系色素のミリモル吸光係数

3.1 : 総液量 (mL)

0.00008 : 試料量 (mg)

[Storage] Store at -20°C.

[Package] 20,000 units

[Reference]

Swoboda, B. E. P. and Massay, V. : *J. Biol. Chem.*, **240**, 2209 (1965).

*Trans is a Japanese translation.

FUJIFILM Wako Pure Chemical Corporation

1-2, Doshomachi 3-Chome, Chuo-Ku, Osaka 540-8605, Japan
Telephone : + 81-6-6203-3741
Facsimile : + 81-6-6201-5964
<http://fwk.fujifilm.co.jp>

FUJIFILM Wako Chemicals U.S.A. Corporation

1600 Bellwood Road
Richmond, VA 23237
U.S.A.
Telephone : + 1-804-271-7677
Facsimile : + 1-804-271-7791
<http://www.wakousa.com>

FUJIFILM Wako Chemicals Europe GmbH

Fuggerstrasse 12
D-41468 Neuss
Germany
Telephone : + 49-2131-3111-0
Facsimile : + 49-2131-311100
<http://www.wako-chemicals.de>

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