

**FUJIFILM****Wako**

Code No. 070-05661 (1,000 units)

## Glutamate Oxaloacetate Transaminase, from Porcine Heart

### グルタミン酸オキサロ酢酸トランスアミナーゼ, ブタ心臓由来

This product is for laboratory research use only ; use in any such application is the responsibility of the user.

**Appearance** : Lyophilized powder from the solution of 0.05 mol/L Phosphate Buffer, pH 7.0

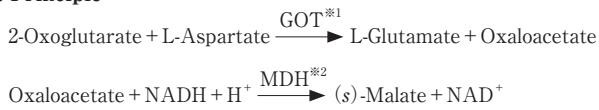
**Source** : Porcine heart

**Activity** : Indicated on the label

**CAS No.** : 9000-97-9

#### Assay Method

##### 1. Principle



\*1 GOT : Glutamate Oxaloacetate Transaminase

\*2 MDH : Malate Dehydrogenase

##### 2. Reagents

A. 0.1 mol/L Phosphate Buffer, pH 7.8

B. 0.005 mol/L Phosphate Buffer, pH 7.8 (Store at 5°C)

C. 2 mol/L Potassium Hydroxide

D. 4 mol/L Sodium Hydroxide

E. 0.3 mol/L L-Aspartate Solution

Dissolve 4.0 g of L-Aspartate in 50 mL of Reagent A. Adjust to pH 7.8 with Reagent C and add Reagent A to bring the final volume up to 100 mL.

F. 0.62 mol/L 2-Oxoglutarate Solution

Dissolve 4.5 g of 2-Oxoglutarate in 20 mL of water. Adjust to pH 6 to 7 with Reagent D and add water to bring the final volume up to 50 mL.

G. 0.008 mol/L NADH Solution

Dissolve 57 mg of  $\beta$ -Diphosphopyridine Nucleotide Disodium (reduced form) in cold Reagent B to bring the final volume up to 100 mL. Store at 5°C.

##### H. MDH Solution

Dissolve MDH in Reagent A to bring the final activity up to 160 units/mL. Store at 5°C.

##### I. Enzyme Solution

Dissolve this product in Reagent A to bring the final activity up to 0.1 to 0.4 units/mL.

[Trans] \*

##### 2. 試薬

A. 0.1mol/L りん酸緩衝液、pH 7.8

B. 0.005mol/L りん酸緩衝液、pH 7.8 (5°Cに保つ)

C. 2mol/L 水酸化カリウム溶液

D. 4mol/L 水酸化ナトリウム溶液

E. 0.3mol/L L-アスパラギン酸溶液

L-アスパラギン酸 4.0g を A 液 50mL に溶解し、C 液を用いて pH 7.8 に調整した後、A 液を加え 100mL にする。

F. 0.62mol/L 2-オキソグルタル酸溶液

2-オキソグルタル酸 4.5g を水 20mL に溶解し、D 液を用いて pH 6 ~ 7 に調整した後、水を加え 50mL にする。

G. 0.008mol/L NADH 溶液

$\beta$ -ジホスホピリジンヌクレオチドニナトリウム、還元型 57mg を氷冷した B 液に溶解し、10mL にする (5°Cに保つ)。

H. MDH 溶液

りんご酸脱水素酵素を A 液に溶解し、160units/mL になるように調整する (5°Cに保つ)。

I. 酵素溶液

本品を A 液に溶解し、0.1 ~ 0.4units/mL となるように調整する。

##### 3. Procedure

Reagent	Test	Blank
E	2.6 mL	2.6 mL
F	0.1 mL	0.1 mL
G	0.1 mL	0.1 mL
H	0.1 mL	0.1 mL
	Pre-incubate at 37°C for 5 minutes	
I	0.1 mL	-
A	-	0.1 mL

Measure the absorbance at 340 nm wavelength at 2 and 7 minutes from the start of the measurement with water as the blank.

#### 4. Unit Definition

One GOT unit is the amount of enzyme which causes the transamination of 1  $\mu$ mol of L-Aspartate for 1 minute at 37°C and pH 7.8 with L-Aspartate and 2-Oxoglutarate as the substrate.

#### (Calculation)

$$A = (E_1 - E_0) \times \frac{1}{6.22} \times 3.0 \times \frac{1}{0.1 \times S} \times \frac{1}{5}$$

A : Activity (units/mg)

$E_1$  : Absorbance change per minute in Test

$E_0$  : Absorbance change per minute in Blank

3.0 : Total amount of reaction solution (mL)

0.1 : Amount of the assumption of diluted Reagent I (mL)

S : Amount of weighed this product for preparation of Reagent I (mg/mL)

6.22 : Milli-molar extinction coefficient of NADH in 340 nm

5 : Reaction time (min)

[Trans] \*

#### 4. 単位の定義

上記の条件で、L-アスパラギン酸と2-オキソグルタル酸を基質として、pH 7.8、37°Cにおいて1分間に1  $\mu$ molのアスパラギン酸のアミノ基を転移させる酵素量を1unitとする。

#### (計算)

$$A = (E_1 - E_0) \times \frac{1}{6.22} \times 3.0 \times \frac{1}{0.1 \times S} \times \frac{1}{5}$$

A : 活性 (units/mg)

$E_1$  : 本試験の吸光度変化

$E_0$  : 空試験の吸光度変化

3.0 : 総液量 (mL)

0.1 : 希釈した本品溶液の使用量 (mL)

S : I液で量りとった本品量 (mg/mL)

6.22 : 340nmにおけるNADHのミリモル吸光係数

5 : 反応時間 (分)

Storage : Store at -20°C

Package : 1,000 units

\* : [Trans] is the Japanese translation.

#### FUJIFILM Wako Pure Chemical Corporation

1-2, Doshinachi 3-Chome, Chuo-Ku, Osaka 540-8605, Japan

Telephone : +81-6-6203-3741

Faximile : +81-6-6201-5964

<http://ffwk.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 : +49-2131-311-0  
Facsimile : +49-2131-311100  
<http://www.wako-chemicals.de>