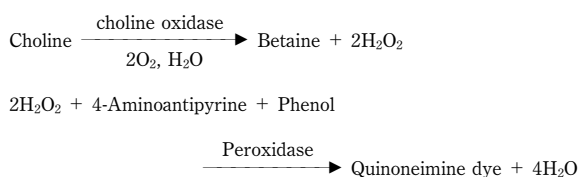


Choline Oxidase コリンオキシダーゼ

Source	: <i>Alcaligenes</i> sp.
Physical Form	: Lyophilized powder
Activity	: Indicated on the label
Molecular Weight	: ca. 95,000
Optimal Temperature	: 40~45 °C
Isoelectric Point	: 4.1 ± 0.1

Assay method :

1. Principle



2. Reagents needed

A. Peroxidase solution

Dissolve 5mg of Peroxidase, from Horseradish (100 units/mg), in a 21 g/L choline chloride solution (0.1mol/L Tris-HCl buffer, pH8.0) 97 mL.

Add 1.0 mL of a 10 g/L 4-Aminoantipyrine solution, and 2.0 mL of a 10g/L phenol solution.

B. Tris buffer

2 mmol/L EDTA – 10 g/L KCl – 10 mmol/L Tris-HCl buffer, pH8.0

C. Enzyme solution

Dissolve choline oxidase using 0.1 mol/L Tris-HCl buffer, pH8.0 cooled with ice and dilute to 0.1~0.5 units/mL with Reagent B.

3. Procedure

Reagent	Test	Control
A	3.0 mL	3.0 mL
Pre-incubation at 37 °C 5min.		
C	0.05 mL	—
B	—	0.05 mL

Measure the absorbance change at 500nm of wavelength at 37 °C. The change of absorbance per minute is ΔA.

[Trans]*

37 °C で 500 nm における吸光度変化を記録し、1 分間当りの吸光度変化を ΔA とする。

4. Unit Definition

According to the above conditions, one unit is the amount of enzyme which produces 1 μmol H₂O₂ per minute at 37 °C in pH 8.0.

(Calculation)

$$\text{unit/mg} = (\Delta A_{\text{test}} - \Delta A_{\text{control}}) \times \frac{1}{12.0} \times 2 \times \frac{3.05}{0.05} \times \frac{1}{S}$$

12.0 : Milli-molar extinction coefficient of quinoneimine dye

2 : Conversion rate to one molecule of quinoneimine dye

3.05 : Total volume (mL)

0.05 : Enzyme solution volume (mL)

S : Enzyme concentration (mg/mL)

[Trans]*

ユニットの定義 :

前記の条件下 37 °C, pH 8.0 で 1 分間に 1 μmol の過酸化水素を生成する酵素量を 1 unit とする。

(計 算)

$$\text{unit/mg} = (\Delta A_{\text{test}} - \Delta A_{\text{control}}) \times \frac{1}{12.0} \times 2 \times \frac{3.05}{0.05} \times \frac{1}{S}$$

12.0 : キノンイミン色素のミリモル吸光係数

2 : 酵素反応で生成した過酸化水素の 1 分子から形成するキノニイミン色素は 1/2 分子であることによる係数

3.05 : 総液量 (mL)

0.05 : 本品溶液の量 (mL)

S : 溶解時の酵素濃度 (mg/mL)

〔**Storage**〕 Store at −20℃

〔**Package**〕 500 units

〔**References**〕

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

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