

FUJIFILM

Wako

Code No. 018-10693 ( 50 units)  
Code No. 012-10691 (100 units)

## Alkaline phosphatase (ALP) アルカリホスファターゼ (ALP)

**Source** : *Escherichia coli*

**Appearance** : Lyophilized powder

**Activity** : Indicated on the label

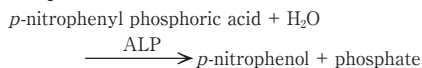
**Optimal pH** : 9.0

**Optimal temperature** : 37°C

**Isoelectric point** : 4.5

### Assay method

#### 1. Principle



#### 2. Reagents

- A. 10 mmol/L *p*-nitrophenyl phosphoric acid disodium solution
- B. 500 mmol/L Tris-HCl buffer, pH 9.0
- C. 4 mol/L Sodium chloride solution
- D. 50 mmol/L Tris-HCl buffer, pH 9.0
- E. ALP solution (diluted with Reagent D to final concentration of 0.0012 mg/mL)
- F. Reaction stop solution (0.5 mol/L Sodium hydroxide solution)

[Trans] \*

#### 2. 試 薬

- A. 10mmol/L *p*- ニトロフェニルりん酸二ナトリウム溶液
- B. 500mmol/L トリス-塩酸緩衝液, pH 9.0
- C. 4mol/L 塩化ナトリウム溶液
- D. 50mmol/L トリス-塩酸緩衝液, pH 9.0
- E. ALP 液  
(試薬 D で希釈して 0.0012mg/mL とする)。
- F. 反応停止液 (0.5mol/L 水酸化ナトリウム溶液)

### 3. Procedure

| Reagent                                             | Test   | Control |
|-----------------------------------------------------|--------|---------|
| A                                                   | 2 mL   |         |
| B                                                   | 2 mL   |         |
| C                                                   | 10 mL  |         |
| Distilled water                                     | 5 mL   | 2.0 mL  |
| Preheat to 37°C                                     |        |         |
| E                                                   | 0.1 mL | —       |
| D                                                   | —      | 0.1 mL  |
| Incubate at 37°C for 10 min.                        |        |         |
| F                                                   | 1.0 mL | 1.0 mL  |
| Measure the absorbance (A) of each sample at 420 nm |        |         |
| [Trans] * 各液の 420nm における吸光度 A を求める。                 |        |         |

### 4. Unit definition

One unit is the amount of enzyme required to produce 1  $\mu$ mol of *p*-nitrophenol in 1 minute under the above conditions.

[Trans] \*

#### 4. 単位の定義

前記条件下で 1 分間に 1  $\mu$ mol の *p*- ニトロフェノールを生成する酵素量を 1 unit とする。

(Calculation)

$$\text{unit/mg} = (\text{A test} - \text{A control}) \times \frac{1}{10} \times \frac{1}{14.1} \times 3.1 \times \frac{1}{0.00012}$$

14.1 : Millimolar absorption coefficient of *p*-nitrophenol

3.1 : Total reaction volume (mL)

0.00012 : Sample amount (mg)

(計 算)

$$\text{unit/mg} = (\text{A test} - \text{A control}) \times \frac{1}{10} \times \frac{1}{14.1} \times 3.1 \times \frac{1}{0.00012}$$

14.1 : *p*- ニトロフェノールのミリモル吸光係数

3.1 : 総液量 (mL)

0.00012 : 試料量 (mg)

**[Storage]** Store at -20°C.

#### **[Package]**

| Code No.  | Packaging |
|-----------|-----------|
| 018-10693 | 50 units  |
| 012-10691 | 100 units |

\* : [Trans] is the Japanese translation.

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