

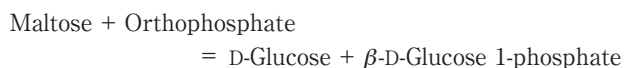
# MP

## Maltose phosphorylase

Maltose : orthophosphate 1-β-D-glucosyltransferase (EC 2.4.1.8)

### from bacteria

#### Reaction Equation



#### Specification

##### Specific Activity

IU/mg protein

##### Specifications

>5 units

##### Contaminants

α-Glucosidase

<0.05%

α-Amylase

<0.05%

#### Assay Procedure

##### I. Spectrophotometric Method

Wavelength ; 340 nm、Light path length ; 1 cm

Enzyme activation temperature ; 30°C

Glucose determination temperature ; 25~30°C

##### Instructions

##### Enzyme activation

##### Main activation

1.00 mL Phosphate buffer (0.1 mol/L, pH 5.6)

1.00 mL Maltose (0.1 mol/L)

0.05 mL Maltose phosphorylase (about 6 IU/mL)

##### Blank activation

1.00 mL Citrate buffer (0.1 mol/L, pH 5.6)

1.00 mL Maltose (0.1 mol/L)

0.05 mL Maltose phosphorylase (about 6 IU/mL)

Enzyme activation (exactly 10 minutes, 30°C)

Boil (3 min)

Freeze in the ice bath

##### Glucose determination

2.80 mL Triethanolamine-HCl-NaOH  
(0.3 mol/L, pH 7.5)

containing MgCl<sub>2</sub> (3 mmol/L)

0.10 mL ATP (10 mg/mL)

0.10 mL NADP<sup>+</sup> (10 mg/mL)

0.05 mL Main activation terminated solution : A<sub>I</sub>

0.005 mL G6PDH (1,000 IU/mL)

0.005 mL HK (1,000 IU/mL) : A<sub>II</sub>

Use blank activation terminated solution instead of mainactivation terminated solution and operate the same instructions above : B<sub>I</sub>, B<sub>II</sub>

##### II. Calculation

$$\frac{\Delta A \times V_1 \times V_2}{6.2 \cdot d \cdot v_1 \cdot v_2 \cdot t} = \text{IU/mL}$$

ΔA = The change in absorbance at 340 nm

$$(A_{II} - A_I) - (B_{II} - B_I)$$

V1 = Glucose determination fluid volume (3.06 mL)

V2 = Enzyme activation fluid volume (2.05 mL)

6.2 = mM extinction coefficient of NADPH

$$(\text{L} \cdot \text{mmol}^{-1} \cdot \text{cm}^{-1})$$

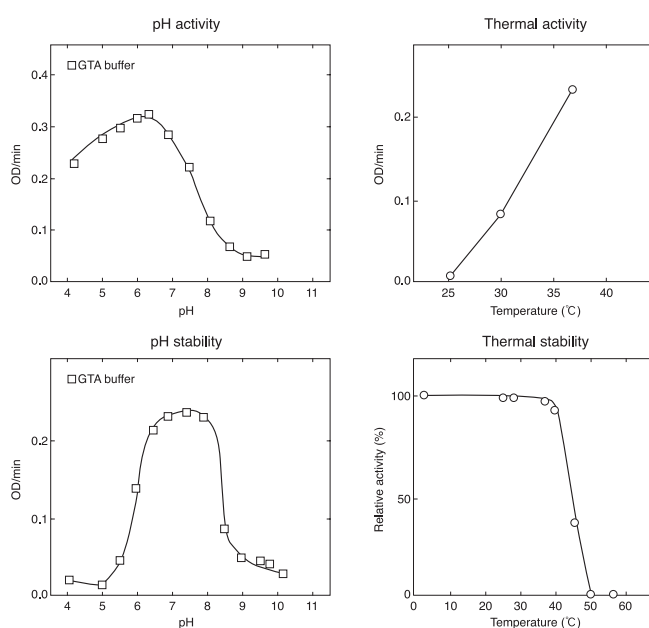
d = Light path length (1 cm)

v1 = Sample volume of enzyme activating solution (0.05 mL)

v2 = Volume of enzyme sample (0.05 mL)

t = Enzyme activation time (10 min)

#### Reference Data



#### Preparation and storage

Product Code : MP-02

Ammonium sulfate suspension.....1°C~10°C

IU per 1 ml suspension is approximately 500 units.

#### OYC No./Package

OYC No.	Package
46630002	250 units
46631002	1,000 units
46632002	5,000 units
46631902	Bulk

(Research reagent use only, not for medical use.)

