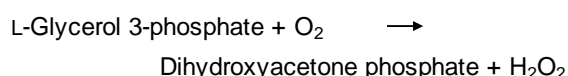




# rGPO

recombinant Glycerol 3-phosphate oxidase from Bacteria  
*sn*-Glycerol 3-phosphate: oxygen oxidoreductase [EC 1.1.3.21]

## Reaction Equation



## Specification

|                   |            |
|-------------------|------------|
| Specific activity |            |
| IU/mg protein     | > 35 units |
| Contaminants      |            |
| ATPase            | < 0.002%   |
| Catalase          | < 0.002%   |
| Hexokinase        | < 0.01%    |
| Lactate oxidase   | < 0.003%   |
| Myokinase         | < 0.01%    |
| Phosphatase       | < 0.0004%  |

## Preparation and Storage

Lyophilized powder  
 Store below -20°C

## Properties

|                   |                                                          |
|-------------------|----------------------------------------------------------|
| pH stability      | : pH 6.0-6.5 (30°C, 1 week)                              |
| Thermal stability | : ≤45°C (pH 6.5, 10 min)                                 |
| Optimum pH        | : pH 6.0-7.0                                             |
| Optimum temp.     | : 40°C                                                   |
| Km value          | : $1.47 \times 10^{-1}$ mol/L (DL-Glycerol 3-phosphate)※ |
| Molecular weight  | : 66 kDa (SDS-PAGE)                                      |

## Assay Procedure

### I. Spectrophotometric Method

Wavelength: 505 nm, Light path length: 1 cm  
 Final volume: 3.04 mL, Temperature: 37°C

Pipette the following reagents into a cuvette

|         |                                                                                             |
|---------|---------------------------------------------------------------------------------------------|
| 2.80 mL | K-phosphate buffer (0.375 mol/L, pH 6.4)<br>containing DL-Glycerol 3-phosphate (0.43 mol/L) |
| 0.10 mL | 4-Aminoantipyrine (6 mmol/L)                                                                |
| 0.10 mL | Phenol (0.21 mol/L)                                                                         |
| 0.02 mL | POD (1000 U/mL Phenol method)                                                               |
| 0.02 mL | rGPO (approx. 2.5 IU/mL)                                                                    |

### II. Calculation

$$\text{IU/mL} = \frac{\Delta A/\text{min} \cdot V \cdot D}{13.2 \cdot d \cdot v} \times 2$$

$\Delta A/\text{min}$  : The change in absorbance at 505 nm/minute  
 (reverse the blank activation of rGPO(-))

$V$  : Total volume of reaction mixture (3.04 mL)

$D$  : Enzyme dilution factor

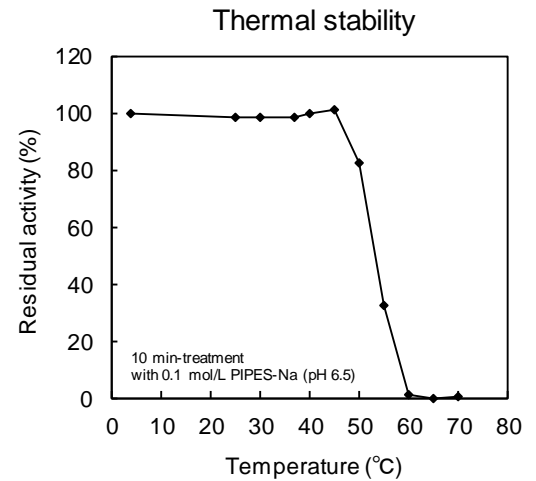
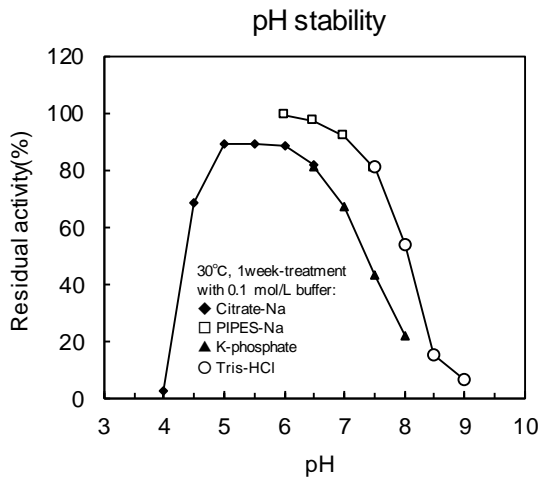
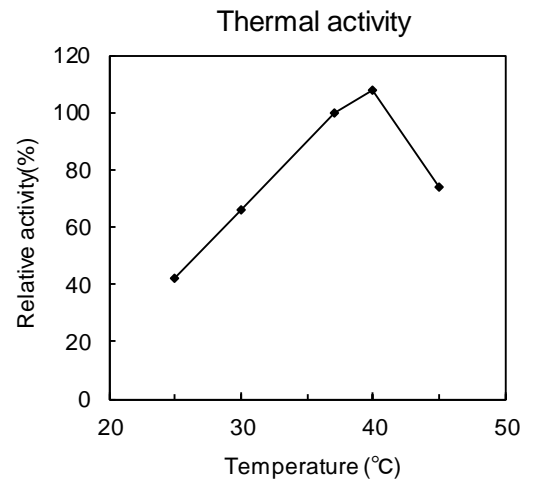
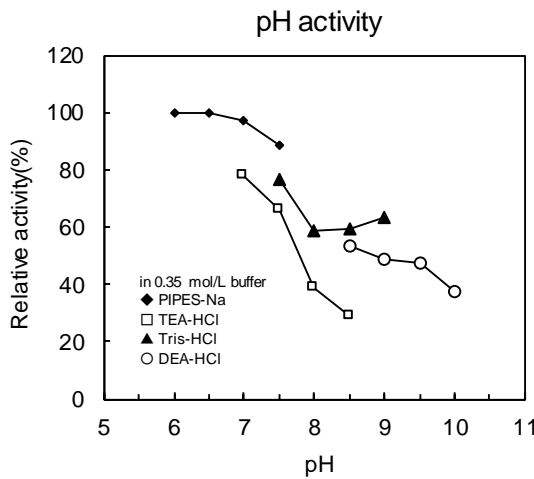
13.2 : mmol/L extinction coefficient of quinoneimine dye  
 ( $\text{L} \cdot \text{mmol}^{-1} \cdot \text{cm}^{-1}$ )

$d$  : Light path length (1 cm)

$v$  : Volume of enzyme sample (0.02 mL)



Reference Data



| Product name | OYC No.  | Package | Price          |
|--------------|----------|---------|----------------|
| rGPO         | 46899903 | Bulk    | Please inquiry |

The product is intended for in vitro diagnostic or research use only.



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