

Sucrose phosphorylase

ORIGIN: Recombinant E. coli

CAT#: SUC-70-1271

EC#: 2.4.1.7

SPECIFICATIONS

Appearance: white lyophilizate **Activity:** ≥50 U/mg lyophilizate

ASSAY PRINCIPLE

| Sucrose + Orthophosphate α -D-Glucose-1-phosphate |
|--|
| α -phosphoglucomutase α -D-Glucose-1-phosphate α -D-Glucose-6-phosphate |
| glucose-6-phosphate dehydrogenase d-Glucose-6-phosphate + NADP+ D-Glucono-1,5-lactone-6-phosphate + NADPH + H+ |
| The appearance of NADPH is measured spectrophotometrically at 3/10 pm |

The appearance of NADPH is measured spectrophotometrically at 340 nm.

APPLICATION

The enzyme is useful for the determination of inorganic phosphate in clinical analysis.

UNIT DEFINITION

One unit (U) is defined as the amount of enzyme which produces 1 μ mol of NADPH per min at 25°C and pH 6.8 under the assay conditions.

CHARACTERISTICS

Molecular weight: ca. 56 kDa (gel filtration) **Structure:** monomer of 56 kDa (SDS-PAGE)

Isoelectric point: 4.6

Michaelis constant: 3.9×10⁻² M (sucrose)

 6.2×10^{-3} M (phosphate)

pH Optimum: 7.5 pH Stability: 5.0-8.0

Optimum temperature: 40°C Thermal stability: below 45°C

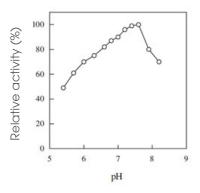
Inhibitors: glucose, glucono-1,5-lactone

Stabilizers: Sucrose

Specificity: sucrose (100), maltose (0), starch (0)

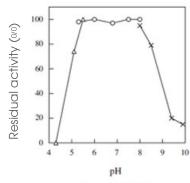
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Figure -1 pH Optimum



Buffer: 50 mM phosphate buffer (Assay: fructose formed was determined by HPLC)

Figure -2 pH Stability



Treatment: 37°C, 1 h

∆: 50 mM acetate buffer

O: 50 mm phosphate buffer

X: 50 mm H₂BO₆-NaOH buffer

Figure -3 Optimum temperature

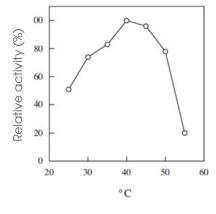
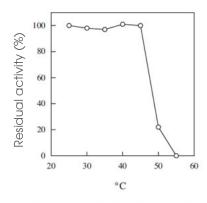


Figure -4 Thermal stability



Treatment: 50 mM Tris-HCl buffer, pH 7.5, 10 min

THE AMERICAS

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