



Sarcosine Oxidase

ORIGIN: *RECOMBINANT E. COLI*

CAT#: SAR-70-2504

EC#: 1.5.3.1

SPECIFICATIONS

Appearance: Yellow lyophilizate

Activity: ≥ 20 U/mg lyophilizate

Contaminant: Creatininase: $< 1 \times 10^{-2}\%$

ASSAY PRINCIPLE

Sarcosine + H₂O + O₂ $\xrightarrow{\text{Sarcosine oxidase}}$ Glycine + Formaldehyde + H₂O₂

2 H₂O₂ + 4-Aminoantipyrine + Phenol $\xrightarrow{\text{Peroxidase}}$ Quinoneimine dye + 4 H₂O

The appearance of quinoneimine dye is measured spectrophotometrically at 495 nm

APPLICATION

The enzyme is useful for the determination of creatinine and creatine in clinical analysis.

UNIT DEFINITION

One unit (U) is defined as the amount of enzyme which produces 1 μmol of hydrogen peroxide per min at 37°C and pH 7.7 under standard assay conditions.

CHARACTERISTICS

Molecular weight: ca. 49 kDa (gel filtration)

Structure: monomer of 43 kDa (SDS-PAGE) | one mole of FAD per mole of enzyme

Isoelectric point: 5.3

Michaelis constant: 4.7×10^{-3} M (sarcosine)

pH Optimum: 6.7–9.5

pH Stability: 6.5–10.5

Optimum temperature: 50°C

Thermal stability: below 55°C

Stability (liquid form): stable at 37°C for at least two weeks

Stability (powder form): stable at 30°C for at least one month

Inhibitor: Zn²⁺, Cu²⁺, Hg²⁺, Ag⁺

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Figure -1 pH Optimum

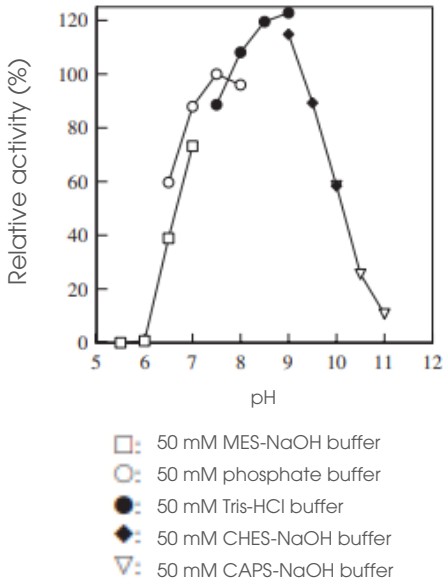


Figure -2 pH Stability

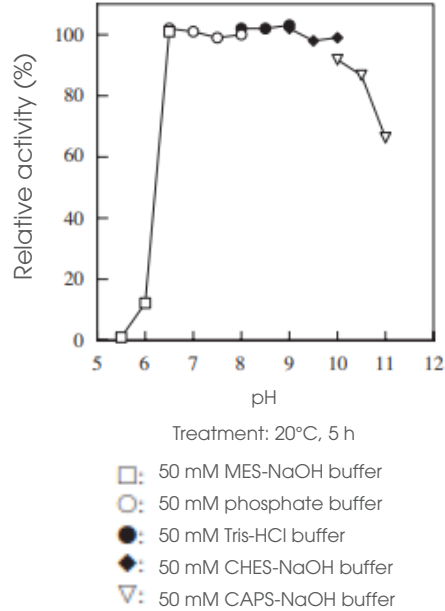


Figure -3 Optimum temperature

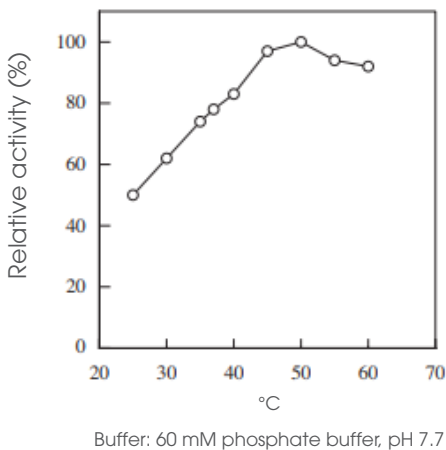
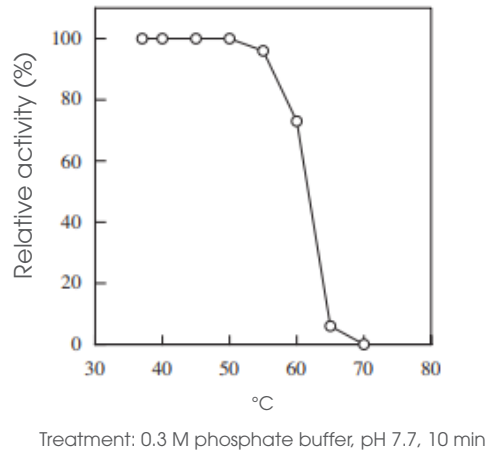


Figure -4 Thermal stability



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