



Creatinase

ORIGIN: RECOMBINANT *E. COLI*

CAT#: CRE-70-2422

EC#: 3.5.3.3

SPECIFICATIONS

Appearance: White to light yellow lyophilizate

Activity: ≥ 9 U/mg lyophilizate

ASSAY PRINCIPLE

Creatinase catalyzes the following reaction:



The appearance of urea is measured spectrophotometrically at 435 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 urea per min at 37°C and pH 7.7 under standard assay conditions.

CHARACTERISTICS

Molecular weight: ca. 80 kDa (gel filtration)

Structure: 2 subunits of 48 kDa (SDS-PAGE)

Michaelis constant: 8.6×10^{-3} M (creatinine)

pH Optimum: 7.0–9.0

pH Stability: 4.0–11.0

Optimum temperature: 45°C

Thermal stability: below 53°C

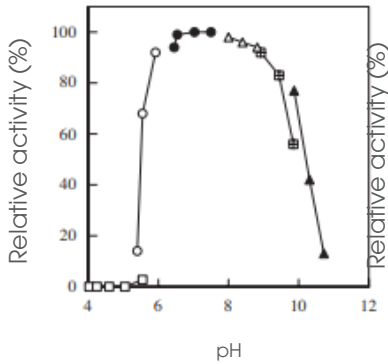
Stability (liquid form): stable at 37°C for at least two weeks

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

Inhibitor: Hg^{2+}

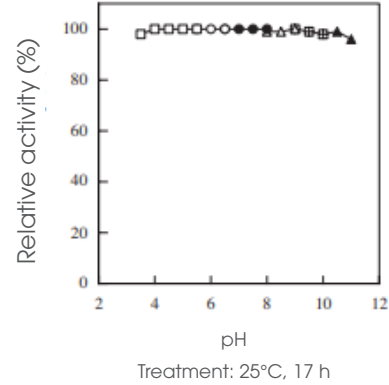
Creatinase

Figure -1 pH Optimum



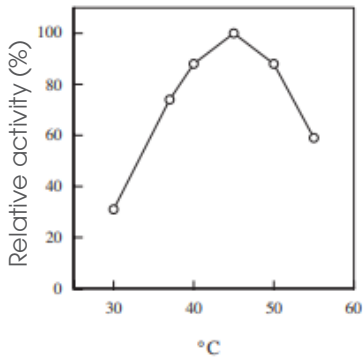
- : 50 mM acetate buffer
- : 50 mM MES-NaOH buffer
- : 50 mM phosphate buffer
- △: 50 mM Tris-HCl buffer
- : 50 mM HEPES-NaOH buffer
- ▲: 50 mM CAPS-NaOH buffer

Figure -2 pH Stability



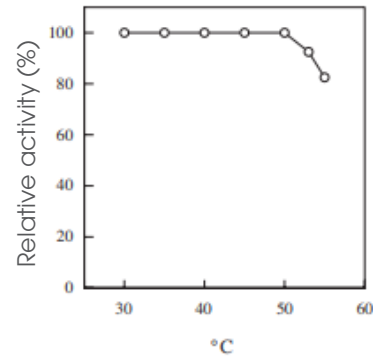
- : 50 mM acetate buffer
 - : 50 mM MES-NaOH buffer
 - : 50 mM phosphate buffer
 - △: 50 mM Tris-HCl buffer
 - : 50 mM HEPES-NaOH buffer
 - ▲: 50 mM CAPS-NaOH buffer
- Treatment: 25°C, 17 h

Figure -3 Optimum temperature



Buffer: 30 mM phosphate buffer, pH 7.7

Figure -4 Thermal stability



Treatment: 50 mM Tris-HCl buffer, pH 7.5, 30 min

THE AMERICAS

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