

Native Microorganism Creatinine Deiminase

Cat. No. DIA-186

Lot. No. (See product label)

Introduction

Description In enzymology, a creatinine deaminase (EC 3.5.4.21) is an enzyme that catalyzes the chemical reaction: creatinine + H₂O ⇌ N-methylhydantoin + NH₃. Thus, the two substrates of this enzyme are creatinine and H₂O, whereas its two products are N-methylhydantoin and NH₃. This enzyme belongs to the family of hydrolases, those acting on carbon-nitrogen bonds other than peptide bonds, specifically in cyclic amidines. The systematic name of this enzyme class is creatinine iminohydrolase.

Applications This enzyme is useful for enzymatic determination of creatinine when coupled with glutamate dehydrogenase in clinical analysis.

Synonyms Creatinine hydrolase; Creatinine deaminase; EC 3.5.4.21

Product Information

Source Microorganism

Appearance White amorphous powder, lyophilized

Form Freeze dried powder

EC Number EC 3.5.4.21

CAS No. 37289-15-9

Molecular Weight approx. 260 kDa

Activity Grade III 10U/mg-solid or more (containing approx. 30% of stabilizer)

Contaminants Creatinine amidohydrolase < 1.0×10⁻²% Creatine amidinohydrolase < 1.0×10⁻²% Urease < 1.0×10⁻²% NADH oxidase < 1.0×10⁻²% NH₄⁺ < 1.0×10⁻²% µg/u

Isoelectric point 4.4

pH Stability pH 7.0-11.0 (30°C, 20hr)

Optimum pH 8.5-9.5

Thermal stability below 65°C (pH 7.5, 1hr)

Optimum temperature 65-75°C

Michaelis Constant 3.5×10⁻³M (Creatinine)

Structure 6 subunits per mol of enzyme

Inhibitors Ag⁺, Hg⁺⁺, o-phenanthroline, monoiodoacetate

Stabilizers Mannitol

Storage and Shipping Information

Stability Stable at -20°C for at least one year