

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

