Creative Enzymes®

Native microorganisms Creatininase

Cat. No. NATE-0163

Lot. No. (See product label)

Introduction

Description	Creatininase from Pseudomonas sp. is a homohexameric enzyme with a molecular mass of 28.4 kDa per subunit. It is a cyclic amidohydrolase catalysing the reversible conversion of creatinine to creatine. Each monomer contains a binuclear zinc centre near the C termini of the β-strands and the N termini of the main α-helices. These zinc ions indicate the location of the active site.
Applications	This enzyme is useful for enzymatic determination of creatinine when coupled with creatine amidinohydrolase, sarcosine dehydrogenase or sarcosine oxidase and formaldehyde dehydrogenase in clinical analysis.
Synonyms	EC 3.5.2.10, creatinine hydrolase; Creatininase; 9025-13-2

Product Information

Source	microorganisms
Form	Lyophilized powder containing sucrose and BSA as stabilizers
EC Number	EC 3.5.2.10
CAS No.	9025-13-2
Molecular Weight	mol wt ~175 kDa
Activity	100-300 units/mg protein
Isoelectric point	4.7
pH Stability	pH 7.5 − 9.0 (5°C, 16hr)
Optimum pH	6.5 − 7.5
Thermal stability	Below 70°C (pH 7.5, 30 min)
Optimum temperature	70°C
Michaelis Constant	3.2 x 10^{-2}M (Creatinine), 5.7 x 10^{-2}M (Creatine) Structure: 6 subunits per mol of enzyme (One mol of zinc is bound to each subunit)
Inhibitors	Ag+, Hg++, N-bromosuccinimide, EDTA
Unit Definition	One unit will hydrolyze 1.0 mmole of creatinine to creatine per min at pH 8.0 and 25°C

Storage and Shipping Information

Storage	2-8°C