# Native Microorganism Creatinine Deiminase

*Cat. No. DIA-186*

*Lot. No.* (See product label)

## Introduction

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| ***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

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| ***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*** | GradeⅢ 10U/mg-solid or more (containing approx. 30% of stabilizer) |
| ***Contaminants*** | Creatinine amidohydrolase < $1.0\times10^{-2}$% Creatine amidinohydrolase < $1.0\times10^{-2}$% Urease < $1.0\times10^{-2}$% NADH oxidase < $1.0\times10^{-2}$% $NH4^{+}$ < $1.0\times10^{-2}$% 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*** | $3.5\times10^{-3}$M (Creatinine) |
| ***Structure*** | 6 subunits per mol of enzyme |
| ***Inhibitors*** | $Ag^{+}$, $Hg^{++}$, o-phenanthroline,monoiodoacetate |
| ***Stabilizers*** | Mannitol |

## *Storage and Shipping Information*

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