# Creatinase from E. coli, Recombinant

*Cat. No. NATE-1241*

*Lot. No.* (See product label)

## Introduction

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| ***Description*** | In enzymology, a creatinase (EC 3.5.3.3) is an enzyme that catalyzes the chemical reaction:creatine + H2O↔ sarcosine + urea. Thus, the two substrates of this enzyme are creatine and H2O, whereas its two products are sarcosine and urea. This enzyme belongs to the family of hydrolases, those acting on carbon-nitrogen bonds other than peptide bonds, specifically in linear amidines. Creatinase accelerates the conversion reaction of creatine and water molecule to sarcosine and urea. It always acts in homodimer state and is induced by choline chloride. |
| ***Synonyms*** | Creatine amidohydrolase; Creatinase; EC 3.5.3.3 |

## Product Information

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| ***Species*** | E. coli |
| ***Source*** | E. coli |
| ***Appearance*** | White lyophilizate |
| ***EC Number*** | EC 3.5.3.3 |
| ***CAS No.*** | 37340-58-2 |
| ***Molecular Weight*** | ca. 80 kDa |
| ***Activity*** | ≥ 15 U/mg |
| ***Contaminants*** | catalase < 0.5% |
| ***pH Stability*** | 4.0–11.0 |
| ***Optimum pH*** | 7.0–9.0 |
| ***Thermal stability*** | below 53°C |
| ***Optimum temperature*** | 45°C |
| ***Michaelis Constant*** | 8.6 x 10^-3 M (creatine) |
| ***Structure*** | 2 subunits of 48 kDa (SDS-PAGE) |
| ***Inhibitors*** | Hg2+ |
| ***Stabilizers*** | Sucrose |
| ***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. |

## Storage and Shipping Information

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| ***Storage*** | at -20°C |

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| ***Storage*** | at -20 °C |