

Native Microorganism Creatine Amidohydrolase

Product Information

Cat#	DIA-185
Abbr	Creatinase, Native (Microorganism)
Alias	Creatinase
Similar	Creatinase
Source	Microorganism
Description	<p>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. The native enzyme was shown to be made up of two subunit monomers via SDS-polyacrylamide gel electrophoresis. Creatinase has been found to be most active at pH 8 and is most stable between pH 6-8 for 24 hrs. at 37 degrees. This enzyme belongs to the family of hydrolases, those acting on carbon-nitrogen bonds other than peptide bonds, specifically in linear amidines. This enzyme participates in arginine and proline metabolism.</p>
Applications	<p>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.</p>
Appearance	White amorphous powder, lyophilized
Form	Freeze dried powder
Enzyme Commission Number	EC 3.5.3.3
Activity	4.0 U/mg-solid or more
CAS No.	37340-58-2
Contaminants	NADH oxidase < 5.0×10 ⁻² %; Catalase < 2.0%



Creative Enzymes

Diagnostic Enzymes

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Molecular Weight	approx. 67 kDa (by gel filtration)
Isoelectric point	4.5±0.1
pH Stability	pH 4.0-10.0 (25°C, 20hr)
Michaelis Constant	4.5×10 ⁻³ M (Creatine)
Structure	2 subunits per mol of enzyme
Optimum pH	6.5-7.5
Optimum temperature	40 - 50°C
Thermal stability	below 70°C (pH 7.5, 30min)
Stability	Stable at -20°C for at least one year
Stabilizers	Sugars, EDTA
Inhibitors	Hg ⁺⁺ , Cu ⁺⁺ , Ag ⁺ , SH reagent (NEM), PCMB
Synonyms	Creatine amidohydrolase; Creatinase; EC 3.5.3.3

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