Creative Enzymes®

# Native Bovine Deoxyribonuclease I

*Cat. No. PHAM-266*

*Lot. No.* (See product label)

## Introduction

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| ***Description*** | DNase I is an endonuclease that acts on phosphodiester bonds adjacent to pyrimidines to produce polynucleotides with terminal 5′-phosphates. In the presence of Mg2+, DNAse I cleaves each strand of DNA independently and the cleavage sites are random. Both DNA strands are cleaved at approximately the same site in the presence of Mn2+.2 The pH optimum is found to be between 7 and 8. Divalent cations such as Mn2+, Ca2+, Co2+, and Zn2+ are activators of the enzyme.3 A concentration of 5 mM Ca2+ stabilizes the enzyme against proteolytic digestion. DNAse I from bovine pancreas consists of four chromatographically distinguishable components, A, B, C, and D, with molar ratios being 4:1:1 respectively. Only minor amounts of D are found.4 2-Mercaptoethanol, chelators, sodium dodecyl sulfate (SDS)5 and actin6 are known to inhibit the enzyme activity. |
| ***Applications*** | Used for the removal of DNA from protein samples. |
| ***Synonyms*** | EC 3.1.21.1; DNase I; Deoxyribonuclease I; Deoxyribonucleate 5'-oligonucleotido-hydrolase |

## Product Information

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| ***Species*** | Bovine |
| ***Source*** | Bovine pancreas |
| ***EC Number*** | EC 3.1.21.1 |
| ***CAS No.*** | 9003-98-9 |
| ***Molecular Weight*** | mol wt ~31 kDa |
| ***Unit Definition*** | One Kunitz unit will produce a ΔA260 of 0.001 per min per mL at pH 5.0 at 25 °C, using DNA, Type I or III as substrate. [Mg2+] = 4.2 mM |

## Usage and Packaging

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| ***Package*** | vial of >0.5 mg total protein |

## Storage and Shipping Information

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| ***Storage*** | −20°C |