Native Bovine Deoxyribonuclease I

Cat. No. NATE-0198

Lot. No. (See product label)

Introduction

Description Deoxyribonuclease I (usually called DNase I), is an endonuclease coded by the human gene DNASE1. DNase I is a nuclease that cleaves DNA preferentially at phosphodiester linkages adjacent to a pyrimidine nucleotide, yielding 5'-phosphate-terminated polynucleotides with a free hydroxyl group on position 3', on average producing tetranucleotides. It acts on single-stranded DNA, double-stranded DNA, and chromatin. In addition to its role as a waste-management endonuclease, it has been suggested to be one of the deoxyribonucleases responsible for DNA fragmentation during apoptosis.

Applications Used for the removal of DNA from protein samples. DNAse I is used to nick DNA as a first step to incorporate labeled bases into DNA. The enzyme from Creative Enzymes has been used in the processing of rat brain tissue. This study showed that axonal growth on astrocytes is not inhibited by oligodendrocytes. In another study, thawed fixed samples of E. coli were digested with DNAse I from Creative Enzymes along with other enzymes. The digestion was done before permeabilization and staining of the nucleic acids. Deoxyribonuclease I from bovine pancreas has been used in a study to investigate a two-dimensional zymogram analysis of nucleases in Bacillus subtilis. Deoxyribonuclease I from bovine pancreas has also been used in a study to investigate the effects of minor and major groove-binding drugs and intercalators on the DNA association of minor groove-binding proteins RecA and deoxyribonuclease I.

Synonyms DNASE1; deoxyribonuclease I; deoxyribonuclease-1; DNase I; 9003-98-9; EC 3.1.21.1; pancreatic DNase; DNase; thymonuclease, dornase; dornava; dornavac; pancreatic deoxyribonuclease; pancreatic dornase; deoxyribonuclease (pancreatic); pancreatic DNase; DNAase; deoxyribonucleic phosphatase; alkaline deoxyribonuclease; alkaline DNase; endodeoxyribonuclease I; DNA depolymerase; Escherichia coli endonuclease I; deoxyribonuclease A; DNA endonuclease; DNA nuclease

Product Information

Species	Bovine
Source	Bovine pancreas
Form	Lyophilized powder containing calcium chloride
EC Number	EC 3.1.21.1
CAS No.	9003-98-9
Molecular Weight	mol wt ~31 kDa
Activity	> 2,000 Kunitz units/mg protein; > 400 Kunitz units/mg protein; > 2,000 units/mg protein
Buffer	0.15 M NaCl: soluble 5.0 mg/mL, clear, colorless
Function	actin binding; deoxyribonuclease I activity; endodeoxyribonuclease activity
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.

Storage and Shipping Information

Storage −20°C

Storage	-20 °C