Endonuclease S. marcescens

Datasheet, Version 2/2016

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Catalog #	1193
Synonyms	Nonspecific nuclease, Benzonase
Type	Recombinant
Source	E. coli
Species	Serratia marcescens
Tag	His6
Form	Liquid, 500U/ul
Purity	>96% by SDS-PAGE
Shipping	Ice pack

Introduction

This nuclease is nonspecific endonuclease isolated from Serratia marcescens. It is highly processive enzyme, which is active at various conditions and temperatures. It has no proteolytic activity and is therefore ideal tool for removing nucleic acids from protein samples or an effective sonication alternative. It is an cost-efficient alternative to commercial nonspecific nucleases.

Description

Nuclease digests both single and double stranded DNA and RNA. It has no sequence specificity and cleavage leads to oligos 2 to 5 bases short. This nuclease is an ideal tool for removal of nucleic acid contamination from purified proteins, commonly from recombinant DNA products, and reduction of viscosity of bacterial lysates for downstream steps enhancement. I replaces sonication accompanied with heat production and protein destabilization.

Application

Degradation of DNA upon cell lysis, viscosity reduction, DNA and RNA removal from protein samples. Typically, endonuclease is added directly into any common lysis buffer at the concentration of 500U (1ul) per 1ml of lysis buffer. The enzyme cleaves DNA during the lysis procedure resulting in degradation of high-molecular weight DNA (sample viscosity) and replaces sample sonication or other mechanical shearing of DNA. This enzyme is suitable for biopharmaceutical manufacturing cGMP applications.

Purification method

Affinity chromatography. The enzymes supplied by Protean Ltd. are manufactured in certified environment under ISO 9001 and ISO 13485 international standards, which fully qualifies them for a use in downstream GMP certified processes.

Formulation

Supplied as liquid in 50% glycerol, 20mM Tris pH 8, 2mM MgCl2, 100mM NaCl, 15mM NaH2PO4, 80mM imidazole, 500 U/ul. One unit of the enzyme cleaves the amount of DNA causing an A260 change of 1.0 in 30 minutes at 37C under standard assay conditions of 50 mM Tris-HCl (pH 8.0), 1 mM MgCl2, 100 ug/ml BSA, and 1 mg/ml sonicated salmon sperm DNA. The absorbance at 260 nm is determined following perchloric acid precipitation.

Specificity

Nonspecifically cleaves both single and double strand DNA and RNA of any origin. Highly processive. Inhibited by >250 mM NaCl.

Storage

-20C

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Analyte specific reagent (ASR) manufactured under ISO 13485.
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