

Datasheet for MB-101-0500

Deoxyribonuclease I

Overview

Description:	Deoxyribonuclease I RNase and Protease Free Molecular Biology Grade - MB-101-0500
Item No.:	MB-101-0500
Size:	500 Units

Product Details

Background:	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. DNase I binds to the cytoskeletal protein actin. It binds actin monomers with very high (sub-nanomolar) affinity and actin polymers with lower affinity. The function of this interaction is unclear. However, since actin-bound DNase I is enzymatically inactive, the DNase-actin complex might be a storage form of DNase I that prevents damage of the genetic information.
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Synonyms:	Deoxyribonuclease I reagent, DNL1
Reagent Type:	Enzyme
Specific Activity:	2,290 Kunitz/mL

Target Details

Gene Name:	DNASE1
Purity/Specificity:	Deoxyribonuclease I is Lyophilized in vials. Each 10,000 unit vial contains 2 mg glycine, 2 μmoles calcium, and $\geq 10,000$ units of DNase I. Each 2,500 unit vial contains 0.5 mg glycine, 0.5 μmoles calcium, and $\geq 2,500$ units of DNase I. Dissolving the entire 10,000 unit vial in 5 ml, or the entire 2,500 unit vial in 1.25 ml, provides the equivalent of a 1 mg/ml solution. (ku = 1000un). Store at 2 - 8°C.
Relevant Links:	• UniProtKB - P00639 • NCBI - 9913

- **GenelD - 282217**

Application Details

Application Note:	Deoxyribonuclease I application is one unit will cause an increase in the absorbance at 260 nm of 0.001 per minute per ml at 25° C, pH 5.0 when acting on highly polymerized DNA according to the assay method of Kunitz (J.Gen.Physiol. 33, 349 and 363 (1950)). A solution in 1 mM Calcium Chloride and 50% (v/v) glycerol. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	630 unit
Buffer:	See application note.

Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C or colder prior to opening product.
Expiration:	Expiration date is six (6) months from date of receipt.

Disclaimer

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