



# M0250S

1,500 units	Lot: 0241207	Exp: 7/14
10,000 U/ml	Store at -20°C	

**Description:** A single-strand specific DNA and RNA endonuclease which will degrade singlestranded extensions from the ends of DNA and RNA molecules, leaving blunt, ligatable ends.

Source: Mung bean sprouts

#### Molecular Weight: 39 kDa

Supplied in: 10 mM sodium acetate (pH 5.0) 0.1 mM zinc acetate, 1 mM cysteine, 0.001% Triton X-100 and 50% glycerol.



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## Applications:

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RNA termini

genomic DNA

• Transcriptional mapping

Cleavage of hairpin loops

- Removal of 3' and 5' extensions from DNA or RNA termini
- Transcriptional mapping Cleavage of hairpin loops
- Excision of gene coding sequences from genomic DNA
- Generation of new restriction sites

Note: It is no longer necessary to supplement Mung Bean Nuclease reactions with Zn<sup>2+</sup>. The zinc acetate in the storage buffer fulfills the Zn<sup>2+</sup> requirement of the enzyme even after dilution in a reaction.

**Reagents Supplied with Enzyme:** 

10X Mung Bean Nuclease Reaction Buffer

Reaction Conditions: Substrate DNA at a concentration of 0.1 µg/µl in 1X Mung Bean Nuclease Reaction Buffer. Incubate at 30°C.

Removal of 3' and 5' extensions from DNA or

• Excision of gene coding sequences from

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Incubate at 30°C.

10X Mung Bean Nuclease Reaction Buffer

Reaction Conditions: Substrate DNA at a

concentration of 0.1 µg/µl in 1X Mung Bean

#### 1X Mung Bean Nuclease Reaction Buffer:

50 mM sodium acetate 30 mM NaCl 1 mM ZnS0, pH 5.0 @ 25°C Also active in NEBuffers 1.2 & 4.

Unit Definition: One unit is defined as the amount of enzyme required to produce 1 µg of acid-soluble total nucleotide in 1 minute at 37°C.

Unit Assay Conditions: 1X Mung Bean Nuclease Reaction Buffer and 0.5 mg/ml denatured calf thymus DNA as an enzyme substrate.

### Removal of Single-Stranded Extensions:

- 1. Suspend DNA (0.1 µg/µl) in 1X Mung Bean Nuclease Reaction Buffer or 1X NEBuffers 1, 2. or 4.
- 2. Add 1.0 unit of Mung Bean Nuclease per µg DNA.
- 3. Incubate at 30°C for 30 minutes.
- 4. Inactivate the enzyme by phenol/chloroform extraction or by addition of SDS to 0.01%.
- 5. Recover the DNA by ethanol precipitation.

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Quality Assurance: Purified free of double-strand exonuclease contamination.

### **Quality Control Assays**

16 µg of Hae III digested  $\phi$ X174 DNA was incubated with 10 units of Mung Bean Nuclease in a 400 µl volume of 1X NEBuffer 2 for 30 minutes at 30°C. The DNA was then precipitated, ligated with T4 DNA Ligase and recut. 90% of the DNA fragments treated with Mung Bean Nuclease were ligated and of those 95% were recut with Hae III.

#### **References:**

- 1. Kowalski, D. et al. (1976) Biochemistry 15, 4457-4463.
- 2. McCutchan, T.F. et al. (1984) Science 225, 626-628

CERTIFICATE OF ANALYSIS

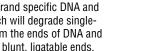
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