Mung Bean Nuclease

**M0250S**

<table>
<thead>
<tr>
<th>1,500 units</th>
<th>Lot: 0251604</th>
<th>Exp: 4/18</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000 U/ml</td>
<td>Store at −20°C</td>
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</tbody>
</table>

**Description:** A single-strand specific DNA and RNA endonuclease which will degrade single-stranded 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.

**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 1.1, 2.1 or CutSmart®.
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.

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

**Quality Control Assays**
16 µg of Hae III digested φX174 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.

**Applications:**

- 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 Zn²⁺. The zinc acetate in the storage buffer fulfills the Zn²⁺ 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.**

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