Micrococcal Nuclease

Both DNA and RNA are degraded to 3’ phospho-mononucleotides and dinucleotides.

Source: An E. coli strain containing a genetic fusion of the micrococcal nuclease gene (Gene ID: 2323436) and the gene coding for maltose binding protein, or MBP. The micrococcal nuclease is cleaved from the fusion protein and purified away from MBP.

Applications:
- Degrade nucleic acids present in protein preparations
- In vitro translation (2)
- Reduce the viscosity of cell lysates during non-mechanical cell lysis preparation
- Chromatin structure analysis (3)
- Rapid RNA sequencing

Reagents Supplied with Enzyme:
10X Micrococcal Nuclease Reaction Buffer

Unit Assay Conditions: (Kunitz Unit) One unit is defined as the amount of enzyme required to digest 1 µg of lambda genomic DNA in 15 minutes at 37°C, to the extent that the accumulation of low molecular DNA fragments (100–400 base pairs) disappears on a 1.2% agarose gel.

Notes: This enzyme does not work in NEBuffer 1, 2, 3 or 4 due to the lack of Ca²⁺. Additional Ca²⁺ in NEBuffer only shows 10% activity. 1–5 mM Ca²⁺ is required for activity.

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Notes: 10,000 Gel Units is approximately equal to 1,000 Kunitz Units.

Unit Assay Conditions: (Kunitz Unit) One unit is defined as the amount of enzyme required to release acid soluble oligonucleotides that produce an absorbance increase of O.D. 1.0 at 260 nm in 30 minutes at 37°C.

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Quality Assurance: Free of detectable protease activity.

References: