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# ProductInformation

**RESTRICTION ENDONUCLEASE Mlu NI**

Product No. **R 1507**
Store at 0 to –20 °C

**Product Summary**
Recognition Sequence: 5'TGG/CCA'3
Activity: 10,000 units/ml
Cutting: 100%
Ligation: >85%
Recutting: >95%
No degradation detected with >100 units for 16 hrs.
Fold over digestion: 1,600 (100 units x 16 hrs.)
Package Size: 50 units

**Unit Definition**
One unit is the enzyme activity that completely cleaves 1 µg λ dam⁻dcm⁻ DNA in 1 hr. at 37 °C in a total volume of 25µl of Buffer SA for restriction enzymes. For cleavage of genomic DNA (*E. coli* dam⁻dcm⁻) incubate with 100 units of Mlu N1 for 4 hrs. at 37 °C .

**Specificity**
Mlu N1 recognizes the sequence TGG/CCA and generates fragments with blunt ends.[1] Mlu N1 is inhibited by overlapping dcm methylation Mlu N1 is an isoschizomer to Bal 1 and Msc I.

**Comments**
Digestion Buffer SA is supplied as a 10x concentrate.

100 units of Mlu N1can be heat inactivated after incubation at 65 °C for 15 min.

**Mlu N1 Storage and Dilution Buffer Composition**
20 mM Tris-HCl
300 mM KCl
0.1 mM EDTA
10 mM 2-mercaptoethanol
50% (v/v) glycerol
pH 8.0

**1x Digestion Buffer SA (B 7531) Composition for Mlu N1: 100 % Digestion at 37 °C.**
33 mM Tris-acetate
10 mM Magnesium acetate
66 mM Potassium acetate
0.5 mM dithiothreitol
pH 7.9

**Quality Control Testing**
**Absence of unspecific endonuclease activities**: 1 µg λ dam⁻dcm⁻ DNA is incubated for 16 hrs. in 50 µl buffer SA with >100 units of Mlu N1.

**Ligation and recutting assay**:
Mlu N1 fragments obtained by complete digestion of 1µg λ Dam⁻dcm⁻ DNA are adjusted to pH 7.5 at 20 °C. The Mlu N1 fragments are then ligated with 5.0 units
T4-DNA ligase at pH 7.5 at 4 °C. A 10 µl reaction mixture, incubated for 16 hrs. at 4 °C, contained 66 mM Tris-HCl, 5 mM $MgCl_2$, 1 mM dithioerythritol, 1 mM ATP and 15% (w/v) PEG 6000.

The degree of ligation and subsequent recutting with Mlu N1 to yield the typical pattern of λdam⁻dcm⁻ Mlu N1 fragments is determined.

**References**
1. Roberts, R., Nucleic Acids Res., **18**, 2931 1990.

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