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# ProductInformation

**RESTRICTION ENDONUCLEASE Mlu I**

Product Number **R 8257**

Store at 0 °C to –20 °C

**Product Summary**
Recognition Sequence: 5′ A/CGCGT′3
Activity: 10,000 units/ml
Cutting: 100%
Ligation: >95%
Recutting: >95%
No degradation detected with >30 units for 16 hrs.
Fold over digestion: 480 (30 units x 16 hrs.)
Package Size: 500 units

**Specificity**
Mlu I recognizes the sequence A/CGCGT and generates fragments with 5′-cohesive termini.[1] Mlu I generates compatible ends to BssHII. Mlu I is inhibited at $A^{m}$CGCGT by the presence of 5′-methylcytosine. Mlu I is not influenced by the presence of $N^{6}$-methyladenine.

**Unit Definition:**
One unit is the enzyme activity that completely cleaves 1µg λ DNA in 1 hr. At 37 °C in a total volume of 25 µl of buffer SH for restriction endonucleases.

**Comments:**
Digestion Buffer SH is supplied as 10× concentrate.

Information for heat inactivation of Mlu I is not available.

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

**Quality Control Testing**

**1× Digestion Buffer SH (B 3657) Composition for Mlu I: 100% Digestion at 37 °C.**
50 mM Tris-HCl
100 mM NaCl
10 mM $MgCl_2$
1 mM dithioerythritol (DTE)
pH 7.5

**Absence of non-specific endonuclease activities**
1 µg λ DNA is incubated for 16 hrs. in 50 µl of buffer SH with excess units of Mlu I.

**Ligation and recutting assay**
Mlu I fragments, obtained by complete digestion of 1 µg λ DNA, are adjusted to pH 7.5 at 20 °C. The Mlu I fragments are then ligated with 0.5 units T4-DNA ligase at pH 7.5 at 20 °C. A 10 µl reaction mixture, incubated for 16 hrs. at 20 °C contained 0.5 units T4-DNA ligase, 66 mM Tris-HCl, 5 mM $MgCl_2$, 5 mM dithioerythritol, 1 mM ATP.

The degree of ligation and subsequent recutting with Mlu I to yield the typical pattern of λ x Mlu I fragments is determined.

**References**
1. Sugisaki, H. and Kanazawa, S., Gene, **16**, 73(1981).

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