DNA-500

**DNA-1000**

DNA-2500

RNA

# Ladder Analysis Using the DNA-1000 Reagent Kit

The MCE-202 MultiNA is capable of detecting all 11 peaks originating from the ladder between 72 bp and 1353 bp with baseline resolution. The electropherogram peaks generated from the ladder are correctly assigned using a proprietary ladder peak detection algorithm.

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## Introduction

Use of the MCE-202 MultiNA to conduct highly accurate size calculations requires the preparation of a size calibration curve by ladder analysis. Here we introduce an example of ladder analysis using the DNA-1000 Reagent Kit.

## Results

The $\phi$X174 DNA / Hae III Markers used in the experiment consist of a total of 11 dsDNA fragments from 72 bp to 1353 bp. Figure 1 shows the analysis results of the $\phi$X174 DNA / Hae III Markers using the MCE-202 MultiNA. All of the DNA fragments originating from the sample were completely resolved. Also, the lower marker (LM) and the upper marker (UM) that were automatically spiked into the sample as internal standards by the instrument were detected, yielding a total of 13 peaks. In addition, the automatic evaluation results for the peaks from the ladder sample are annotated at the peaks' apexes in the electropherogram. All 11 peaks between the lower marker and upper marker are correctly assigned.
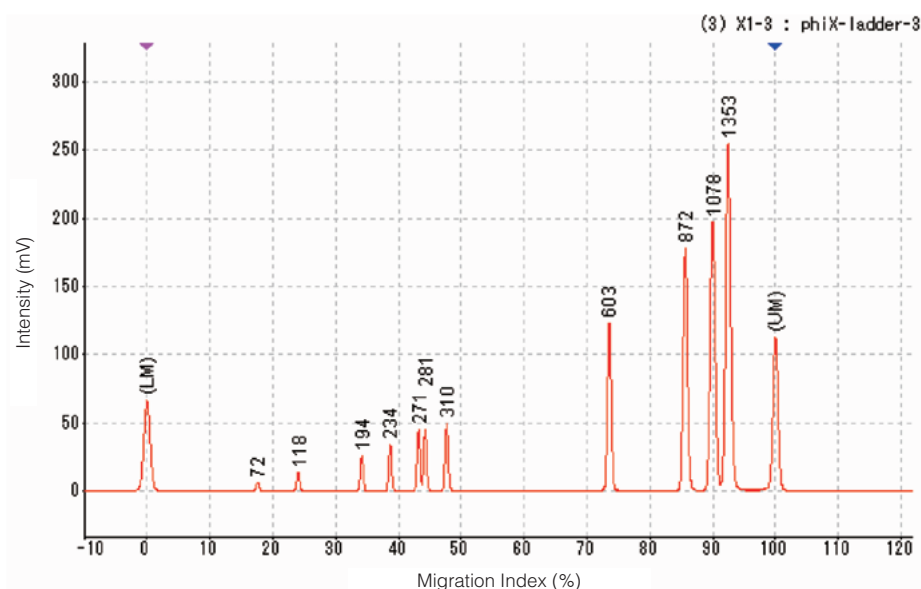


Fig. 1  Electropherogram of $\phi$X174 DNA / Hae III Markers Using the DNA-1000 Reagent Kit for MultiNA

## ● Analytical Conditions and Procedure

Instrument:        MCE-202 MultiNA
Analysis mode:   DNA-1000 on-chip mixing
Sample:             $\phi$X174 DNA / Hae III Markers
                        (Promega)
                        Diluted 100:1 with TE buffer
Reagents:

- DNA-1000 Reagent Kit for MultiNA
  (Shimadzu)              P/N 292-27911-91
- SYBR® Gold nucleic acid gel stain
  (Invitrogen)             S-11494
- $\phi$X174 DNA / Hae III Markers
  (Promega)              G1761
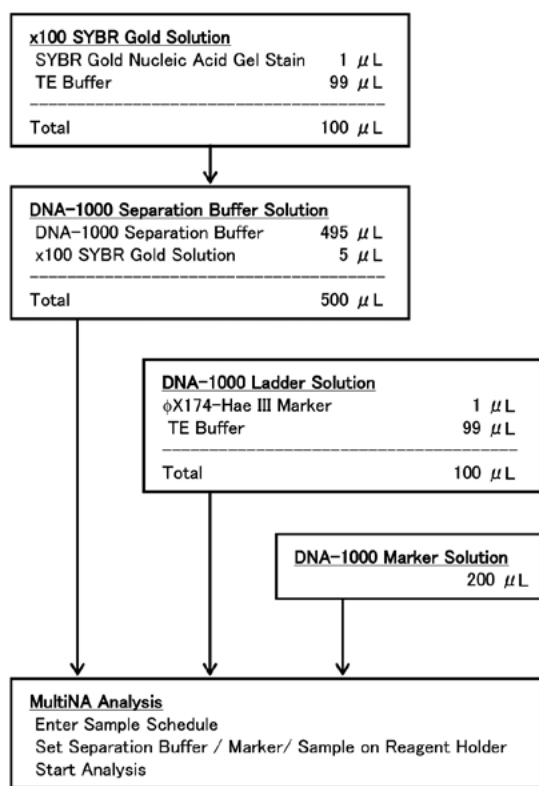
Experimental Method:



Fig. 2  Experimental Procedure (for 8 Samples)

(Note) For detailed operational information related to analysis using the MCE-202 MultiNA, please refer to the MCE-202 MultiNA Instruction Manual.

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