

DNA-500

DNA-1000

DNA-2500

RNA

Ladder Analysis Using the DNA-2500 Reagent Kit

The MCE-202 MultiNA is capable of detecting all 13 peaks originating from the ladder between 65 bp and 2645 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-2500 Reagent Kit.

● Results

The pGEM[®] DNA Markers used in the experiment consist of a total of 15 dsDNA fragments from 36 bp to 2645 bp. Figure 1 shows the analysis results of the pGEM[®] DNA Markers using the MCE-202 MultiNA. Thirteen of 15 dsDNA fragments were completely resolved. The two shorter lengths (36 bp and 51 bp) were not detected due to their low concentration. 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 15 peaks. In addition, the automatic evaluation results for the peaks from the ladder sample are annotated at the peaks' apexes in the electropherogram. The 13 resolved peaks between the lower marker and upper marker are correctly assigned.

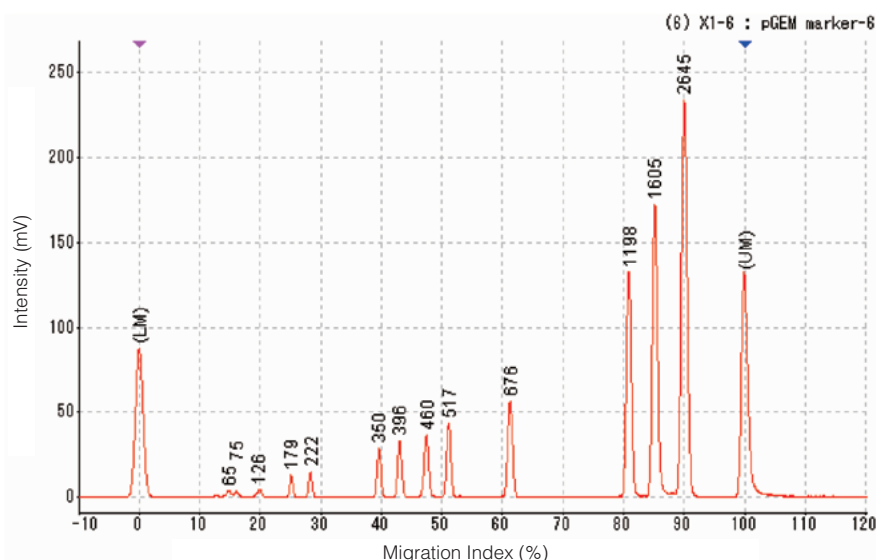


Fig. 1 Electropherogram of pGEM[®] DNA Markers Using the DNA-2500 Reagent Kit for MultiNA

Analytical Conditions and Procedure

Instrument: MCE-202 MultiNA
Analysis mode: DNA-2500 on-chip mixing
Sample: pGEM[®] DNA Markers (Promega)
Diluted 100:1 with TE buffer

Reagents:

- DNA-2500 Reagent Kit for MultiNA
(Shimadzu) P/N 292-27912-91
- SYBR[®] Gold nucleic acid gel stain
(Invitrogen) S-11494
- pGEM[®] DNA Markers
(Promega) G1741

Experimental Method:

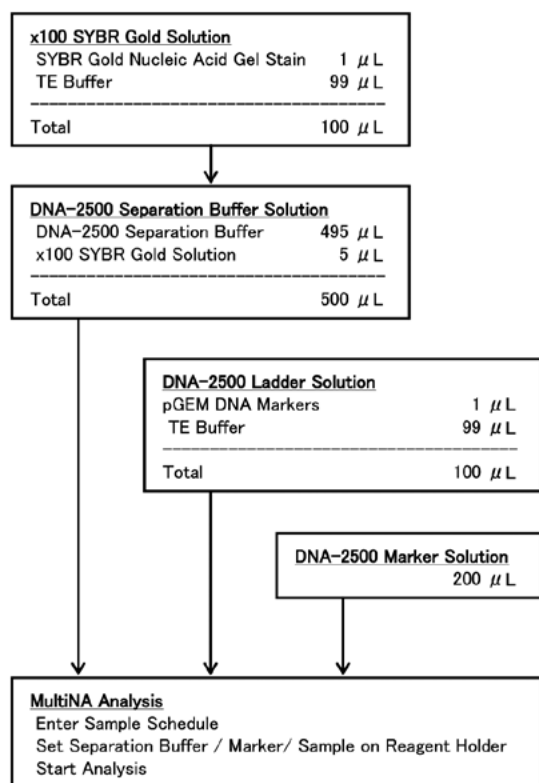


Fig. 2 Experimental Procedure (for 8 Samples)

(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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