

SEQUENCING WITH THE SPECTRUM COMPACT CE-SYSTEM: A PERSONAL CAPILLARY ELECTROPHORESIS DEVICE

Robert S. McLaren¹, Jay Lemke¹, Michiru Fujioka², Tomohiro Yasuda³, Ayaka Okuno², and Douglas R. Storts¹

¹Promega Corporation

²Hitachi High-Technologies Corporation

³Hitachi, Ltd. Research & Development Group

The Spectrum Compact CE System, a collaborative development between Promega Corporation and Hitachi High-Technologies Corporation, allows laboratories of all sizes the freedom to carry out single nucleotide polymorphism analysis, PCR sizing and microsatellite analysis, *de novo* sequencing, NGS validation, and mutation detection. This four-capillary benchtop capillary electrophoresis instrument runs 1-32 samples and features single base resolution and 6-dye detection along with an integrated touch-screen for instrument operation. Reagents are provided in pre-filled cartridges, including a choice of separation polymers that streamline instrument setup and support both fragment analysis and sequencing workflows. To support the sequencing application, Promega has developed the ProDye™ Sequencing System. This is a dideoxy dye-terminator based sequencing chemistry that can be used to generate readable sequences using a variety of templates. In combination with the Spectrum Compact CE System, read lengths of \geq 600 bases can be obtained with run times of \leq 32 minutes and \geq 700 bases with a run time of \leq 60 minutes. Data will be presented showing sequencing data obtained from a variety of templates using the ProDye™ Sequencing System in combination with the Spectrum Compact CE System.

Key Words: Spectrum Compact CE System, ProDye™ Sequencing System, dideoxy terminator sequencing