

Errata Notice

This document contains references to "Advanced Analytical" or "AATI." Please note that Advanced Analytical was purchased by Agilent in June 2018. For more information, contact Agilent via: www.agilent.com/chem/contactus



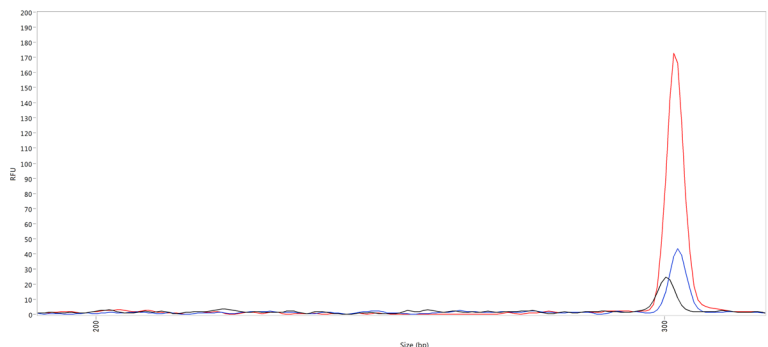
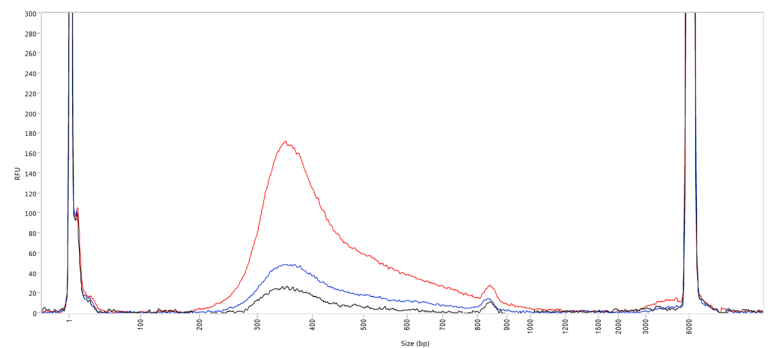
Ultra-Sensitivity NGS Analysis Kit

FEMTO Pulse Automated Pulsed-Field CE Instrument

Size and Quantify DNA Fragments and NGS Smears into the Femtogram Range

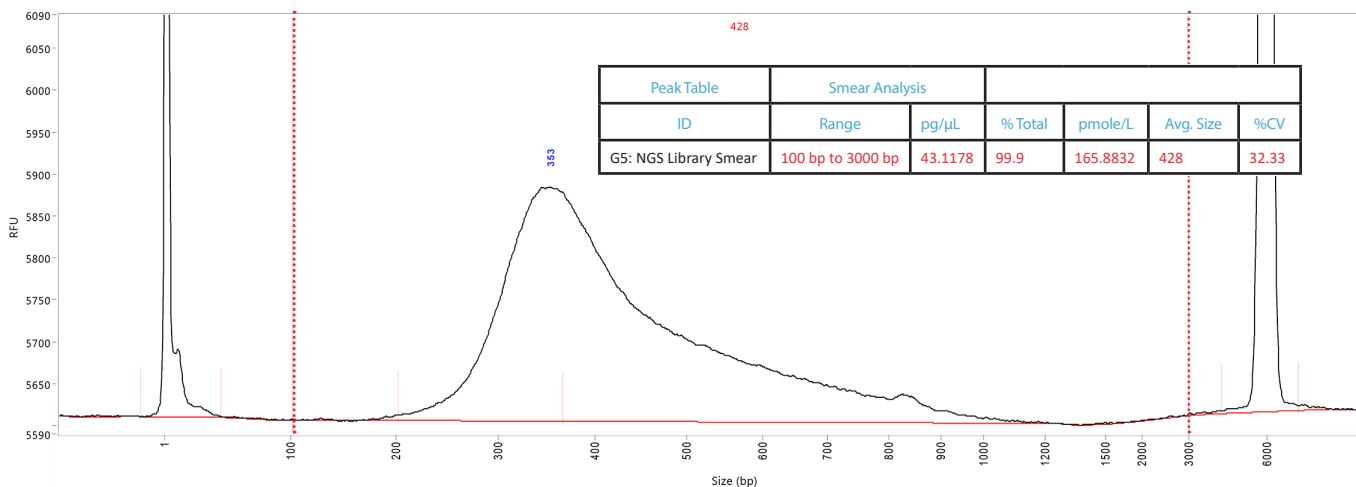
Researchers are now able to reliably quantify and qualify DNA smears and fragments at extremely low concentrations with the **FP-1101 Ultra-Sensitivity NGS Analysis Kit** on the transformative FEMTO Pulse. A simple to follow protocol allows researchers to automate the separation of up to 288 samples with fragment detection down to 5 fg/ μ L (final in-well concentration), enabling the conservation of precious sample and the generation of new applications. Common genomics applications include PCR-free NGS library construction, single-cell analysis, short-read NGS library QC, and cfDNA analysis.

Efficient and accurate quantification of DNA fragments and smears at low concentrations is important for a variety of applications, from reducing PCR amplification bias to QC during NGS library construction. The **FP-1101 Ultra-Sensitivity NGS Analysis Kit** meets these requirements with the reliable quantification of DNA smears and fragments across a dynamic range with detection down to 5 pg/ μ L (input concentration) for smears, and 50 fg/ μ L (input concentration) for fragments.



The figures above depict the overlay of a commercially prepared NGS library at three concentrations (top) and the overlay of a 300 bp DNA fragment at three concentrations (bottom). Capillary electrophoresis was performed on the FEMTO Pulse Automated Pulsed-Field CE Instrument with the FP-1101 Ultra-Sensitivity NGS Analysis Kit under standard conditions. All samples used in this figure were at extremely low concentrations. The input concentrations for the NGS smear are: 5 pg/ μ L (black trace), 10 pg/ μ L (blue trace), and 25 pg/ μ L (red trace). Input concentrations for the 300 bp fragment are: 50 fg/ μ L (black trace), 130 fg/ μ L (blue trace), and 500 fg/ μ L (red trace).

Analysis of results post-electrophoresis is simplified by *PROSize* Data Analysis Software, which automatically calculates size and concentration while allowing researchers to directly view results in an easy-to-use interface. *PROSize* provides users with the Smear Analysis function to simplify the analysis of DNA smears. The Smear Analysis range is defined by the user to include the entire smear, illustrated on the electropherogram by red lines.



The figure above depicts a commercial NGS library preparation (diluted to 50 pg/μL) analyzed with the Smear Analysis function. The analysis range is indicated by the red lines and the average size is reported in red numbers centered at the top of the electropherogram. The inset table shows the Smear Analysis range, concentration, % of the total, molarity, the average size, and precision. Capillary electrophoresis was performed using the FEMTO Pulse Automated Pulsed-Field CE Instrument with the FP-1101 Ultra-Sensitivity NGS Analysis Kit under standard conditions.

Features and Benefits

- Enhanced Sensitivity**
 Conserve precious sample with unparalleled detection sensitivity.
- Improved Resolution**
 Separate and size challenging DNA fragments and smears.
- Automated Operation**
 Run up to three, 96-well plates without intervention.
- Fast Separation Time**
 Separate up to 12 samples in less than 1 hour.

Specifications

- DNA Sizing Range**
 100 bp – 6,000 bp
- DNA Fragment Detection Range**
 50 fg/μL – 5 pg/μL
- DNA Smear Detection Range**
 5 pg/μL – 250 pg/μL
- DNA Fragment Quantification Range**
 100 fg/μL – 5 pg/μL
- DNA Smear Quantification Range**
 25 pg/μL – 250 pg/μL

www.agilent.com

For Research Use Only. Not for use in diagnostic procedures.

This information is subject to change without notice.

© Agilent Technologies, Inc. 2018
 Published in the USA, November 5, 2018
 5994-0412EN

FEMTO Pulse Automated Pulsed-Field CE Instrument