

#### 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](http://www.agilent.com/chem/contactus)



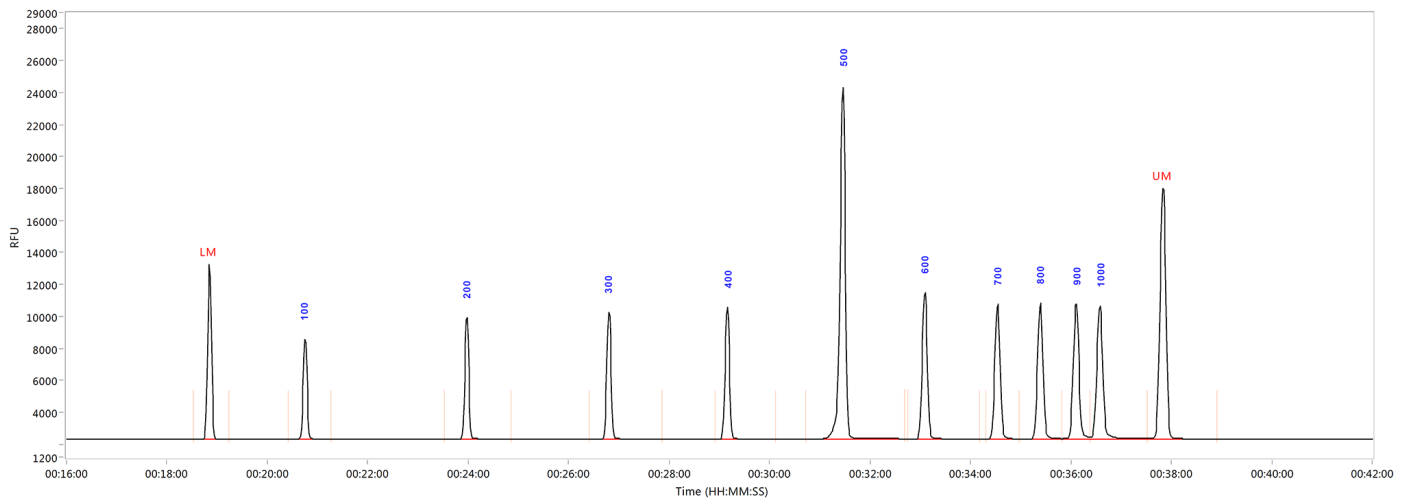
# Microsatellite Analysis

## Fragment Analyzer Automated CE System

### Fast, Effective, and Qualitative Analysis of Nucleic Acids

With slab gel methods, analysis of DNA fragments is time-consuming due to the manual labor involved with preparation of slab gels, and error prone due to the human factor of trying to correctly call fragment sizes. The Fragment Analyzer solves both problems. The instrument accelerates and automates capillary electrophoresis, dramatically improving the accuracy of genetic marker analysis. It provides significantly higher sensitivity and fragment resolution than slab gel methods. Because it has the ability to operate in either qualitative or quantitative mode – along with the option to analyze 12, 48, or 96 samples simultaneously – the Fragment Analyzer's remarkable flexibility satisfies the constantly evolving needs of laboratories.

### High Resolution Over a Wide Fragment Range



*Example separation of a 100 bp Ladder, with time scale, separated under normal run conditions (DNF-910 Kit). Lower and Upper Alignment Markers and fragment sizes are shown.*

# Analysis Capabilities

## For Use With:

- Microsatellites or other common repetitive sequences
- PCR amplicons
- Restriction enzyme digests
- DNA fragments
- Supercoiled and linear plasmid
- Mutated DNA

## For Projects involving:

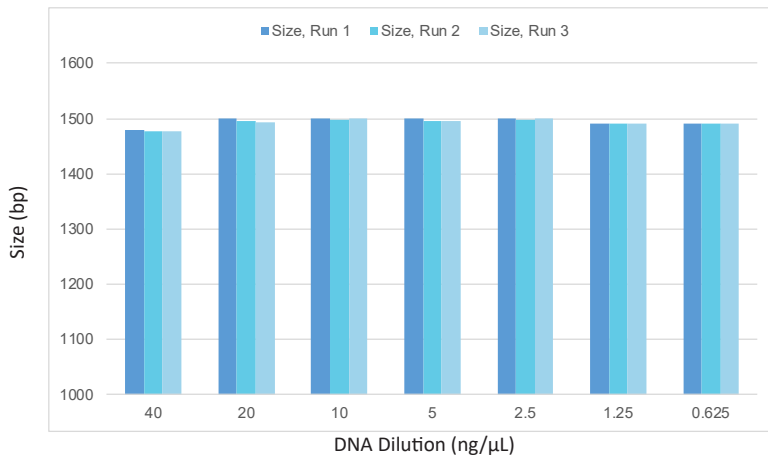
- Genotyping
- Marker assisted selection/breeding
- Population mapping
- Identifying QTLs
- Cloned fragment identification/confirmation
- TILLING & Eco-TILLING
- Gene expression



# Features and Benefits

- **Room Temperature Stable Reagents**  
Prepared kit reagents can be kept on instrument for up to 14 days.
- **Load Multiple Gels Onto Instrument**  
Seamlessly switch between different applications or fragment sizes. Reduces instrument down time.
- **Separate Over Wide Fragment Range**  
One instrument to handle very small fragments to very large fragments with tailored gel kits optimized for maximum resolution.
- **Attain High Sensitivity**  
With sensitivities down to 5 pg/ $\mu$ L for a single fragment, cycle time, or PCR reagent volume reduction may be realized.
- **Achieve High Separation Resolution and Sizing Accuracy**  
Confidently resolve small differences between fragments, as low as 3 bp for fragments under 300 bp size.
- **Automated Sample Handling**  
No repetitive pipetting steps, simply load samples in a 96-well plate or 12-well strip tubes.
- **Variable Throughput**  
Space to hold up to 288 samples (3 x 96-well plates). Tray holders are accessible for sample loading during runs.
- **Powerful Data Analysis Software**  
*PROSize* Data Analysis Software automates post-electrophoresis analysis. Digital data collection shows excellent details. The Flag Analysis feature outputs results in binary fashion, while the Overlay and Reporting features efficiently generate publication quality documents.

# High Sizing Accuracy

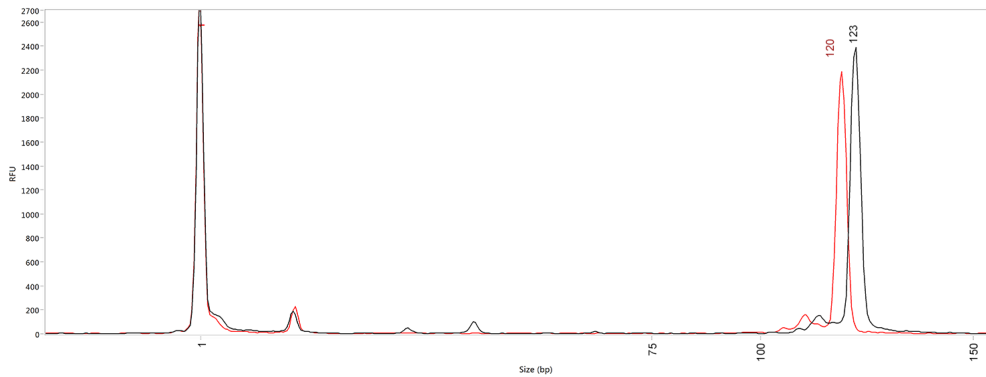


Dilution (ng/μL)	Expected Size, bp	Average Size, bp	% from expected	% CV
40	1500	1477	1.56	0.31
20	1500	1496	0.3	0.3
10	1500	1499	0.1	0.17
5	1500	1497	0.2	0.17
2.5	1500	1499	0.09	0.18
1.25	1500	1491	0.6	0
0.625	1500	1491	0.6	0

*Serially diluted 1,500 bp fragment. Sizing accuracy and precision over the wide dynamic concentration range is shown.*

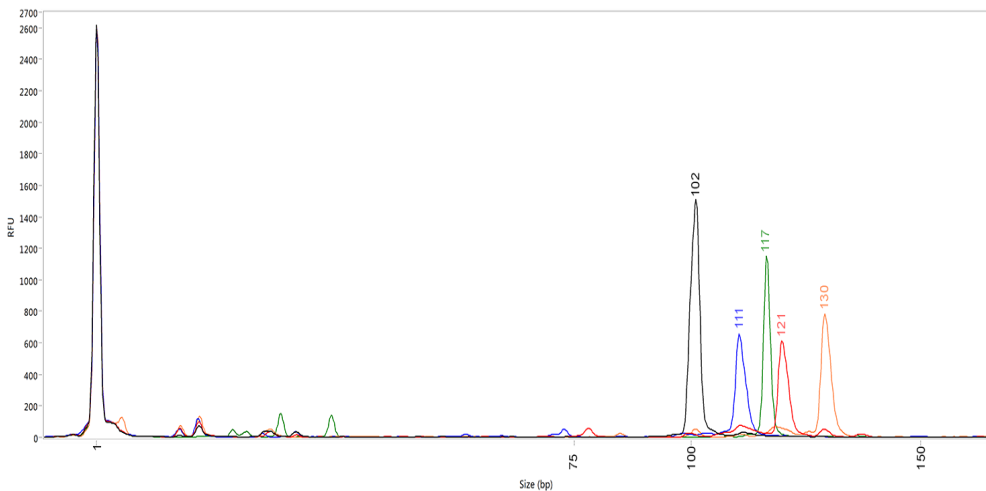
## High Resolution Under 300 bp

Resolution of Small Fragments, 3 bp Separation of Main Peaks



*Fragment Analysis of rice plant DNA. Expected and observed sizes of microsatellite amplicons matched at 120 bp and 123 bp.*

Resolution of Fragments for KRAS/EGFR Genes, 4 bp Resolution



*Fragment analysis of KRAS/EGFR gene amplification from human gDNA. Control amplification of key exons from each gene is shown. An example at 4 bp resolution is shown (117 bp and 121 bp).*

# Qualitative / Sizing Kits

Kits below are for sizing and qualitative analysis, using a double injection of sizing markers and sample. Appropriate for genotyping or analysis of SSRs, microsatellites, and PCR fragments.

## **dsDNA 905 Reagent Kit, 1 bp – 500 bp, DNF-905**

- Sizing Range: 35 bp – 500 bp, uses DNF-905 gel
- Input Concentration Range: 0.5 ng/μL – 50 ng/μL (can be adjusted by dilution of sample)

## **dsDNA 910 Reagent Kit, 35 bp – 1,500 bp, DNF-910**

- Sizing Range: 35 bp – 1,500 bp, uses DNF-810 gel
- Input Concentration Range: 0.5 ng/μL – 50 ng/μL (can be adjusted by dilution of sample)

## **dsDNA 915 Reagent Kit, 35 bp – 5,000 bp, DNF-915**

- Sizing Range: 35 bp – 5,000 bp, uses DNF-810 gel
- Input Concentration Range: 0.5 ng/μL – 50 ng/μL (can be adjusted by dilution of sample)

## **dsDNA 930 Reagent Kit, 75 bp – 20,000 bp, DNF-930**

- Sizing Range: 75 bp – 20,000 bp, uses DNF-930 gel
- Input Concentration Range: 0.5 ng/μL – 50 ng/μL (can be adjusted by dilution of sample)

## **dsDNA 935 Reagent Kit, 1 bp – 1,500 bp, DNF-935**

- Sizing Range: 100 bp – 1,500 bp, uses DNF-930 gel
- Input Concentration Range: 0.5 ng/μL – 50 ng/μL (can be adjusted by dilution of sample)
- For Fast Separations of Fragments in Under 20 Minutes

## **Plasmid DNA Analysis Kit, DNF-940**

- Sizing Range: 2,000 bp – 10,000 bp (supercoiled), uses DNF-940 gel
- Input Concentration Range: 0.1 ng/μL – 1.0 ng/μL (can be adjusted by dilution of sample)
- For the accurate separation of supercoiled and linear plasmid DNA

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