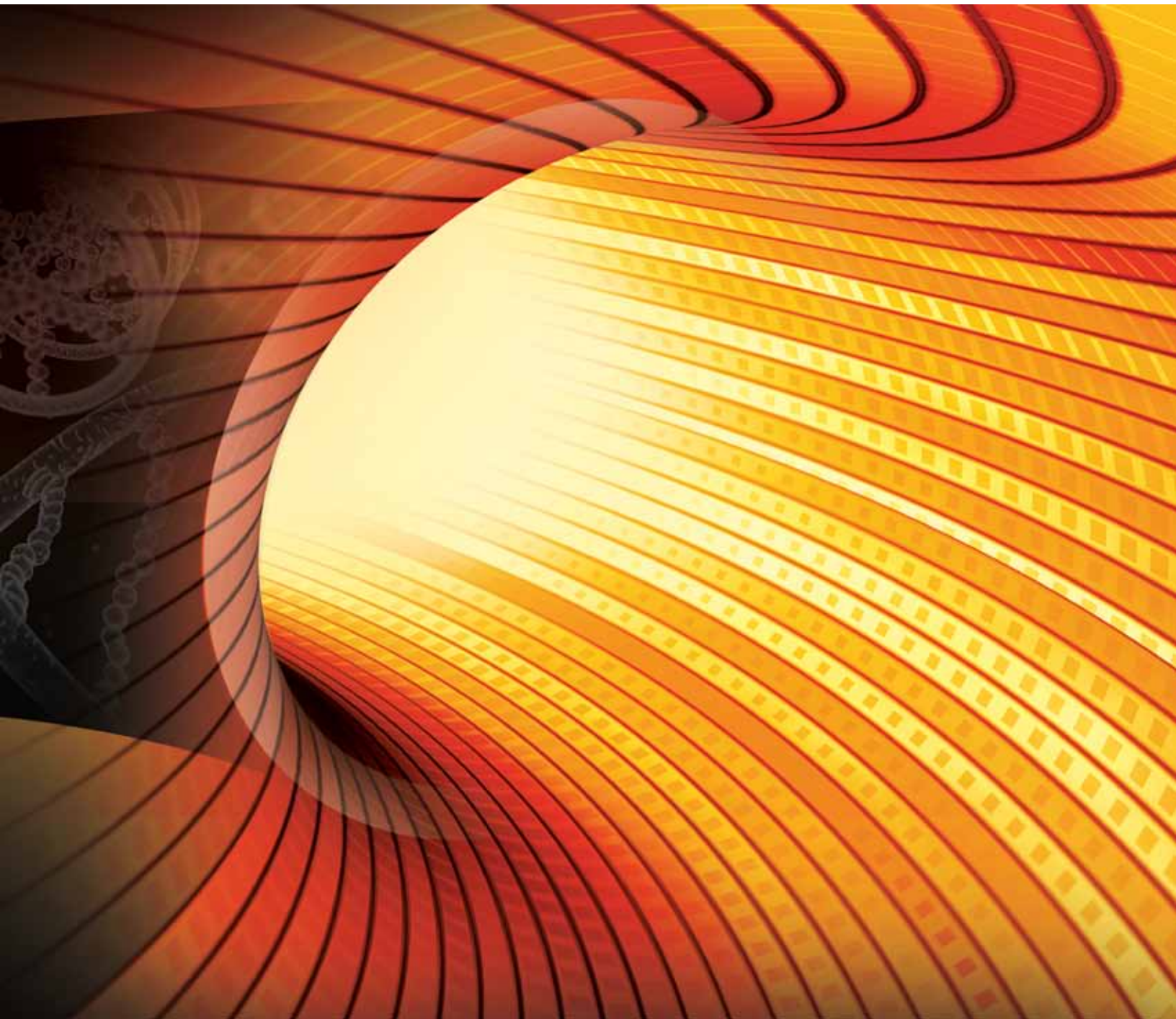




Fragment Analyzer[™] Automated CE System

ADVANCED ANALYTICAL

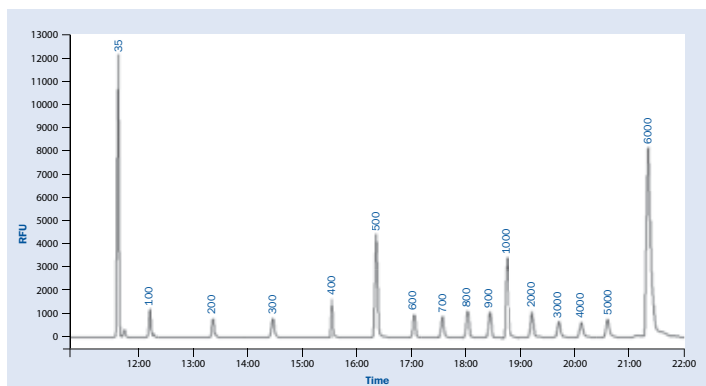


> INSTRUMENT CAPABILITIES

SUPERIOR INSTRUMENT, SUPERIOR RESULTS

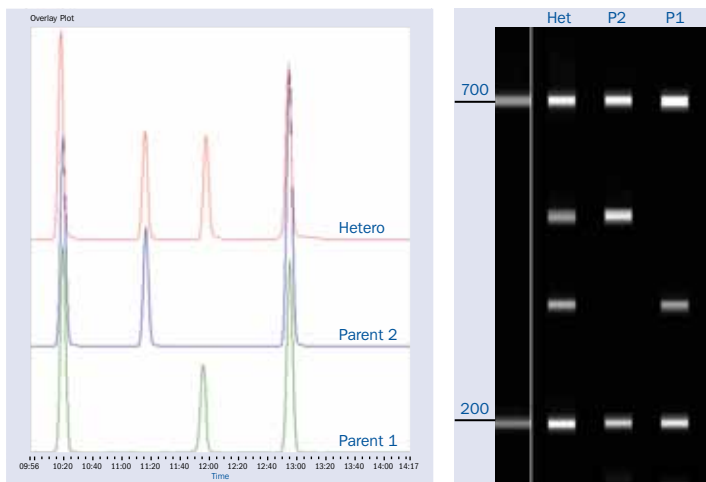
The *Fragment Analyzer*™ Automated CE System has been designed for flexible operation, providing high separation resolution over a wide range of DNA/RNA sizes and concentrations. Different gel kits are interchangeable with the same capillary array.

Typical Separation – Speed and Resolution



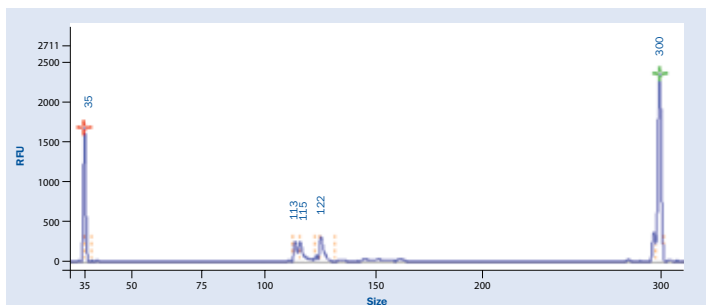
Mixture of GeneRuler™ 100 bp Plus Ladder (Fermentas) plus 35 bp (lower) and 6,000 bp (upper) marker fragments

Fast Run Times: Separate Fragments In Under 15 Minutes



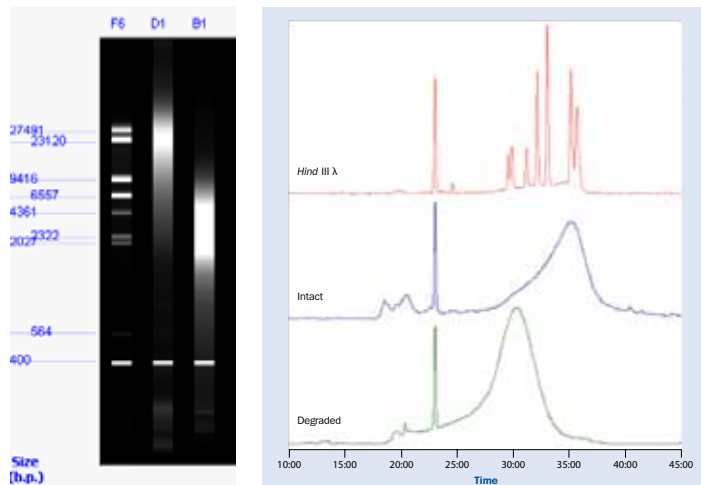
Fast Separations: Parent 1, Parent 2 and Hetero SSR samples. The DNA fragments sized as 313 bp and 423 bp corresponding to < 10% sizing error. Outer peaks represent 200 bp/700 bp markers. Migration time for 700 bp upper marker was 13 min.

Detect SSRs With Confidence—Down to 2 bp Resolution



DNF-900 Gel: Separation demonstrating resolution of 113 bp, 115 bp, and 122 bp DNA fragments.

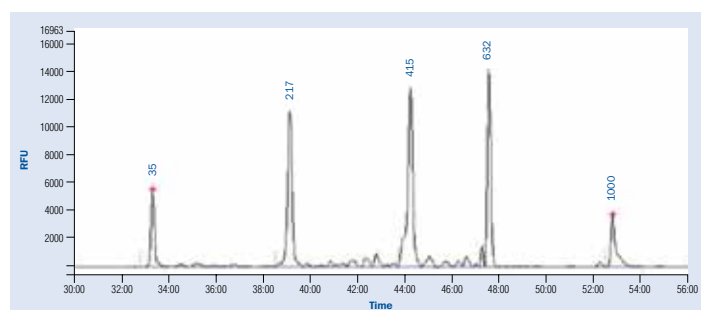
Separate and Quantify Genomic DNA



Genomic DNA Kit: Separation of λ DNA/HindIII Marker (Promega®) with intact (D1) and degraded (B1) genomic DNA.

Automate Mutation Detection Analysis

Detect induced (and natural) point mutations in genomic DNA. High detection sensitivity (as low as 5 pg/μL) combined with a simplified cleavage process (no desalting step or EDTA addition) result in the efficient detection of mutations. The streamlined cleavage process and fast separation times yield improved throughput over manual TILLING methods.



Pooled DNA (equivalent of 8 diploid organisms), amplified, cleaved and separated. The uncut fragment is 632 bp; cut fragments are 415 bp and 217 bp.

Analyze Total RNA Quality

No exchange of capillary array is required, streamlining operation and reducing costs compared to alternative methods.

Other Applications

- > DNA and RNA Quantity and Quality Measurements
- > Restriction Digestion of DNA Fragments (CAPS Analysis)
- > SSCP

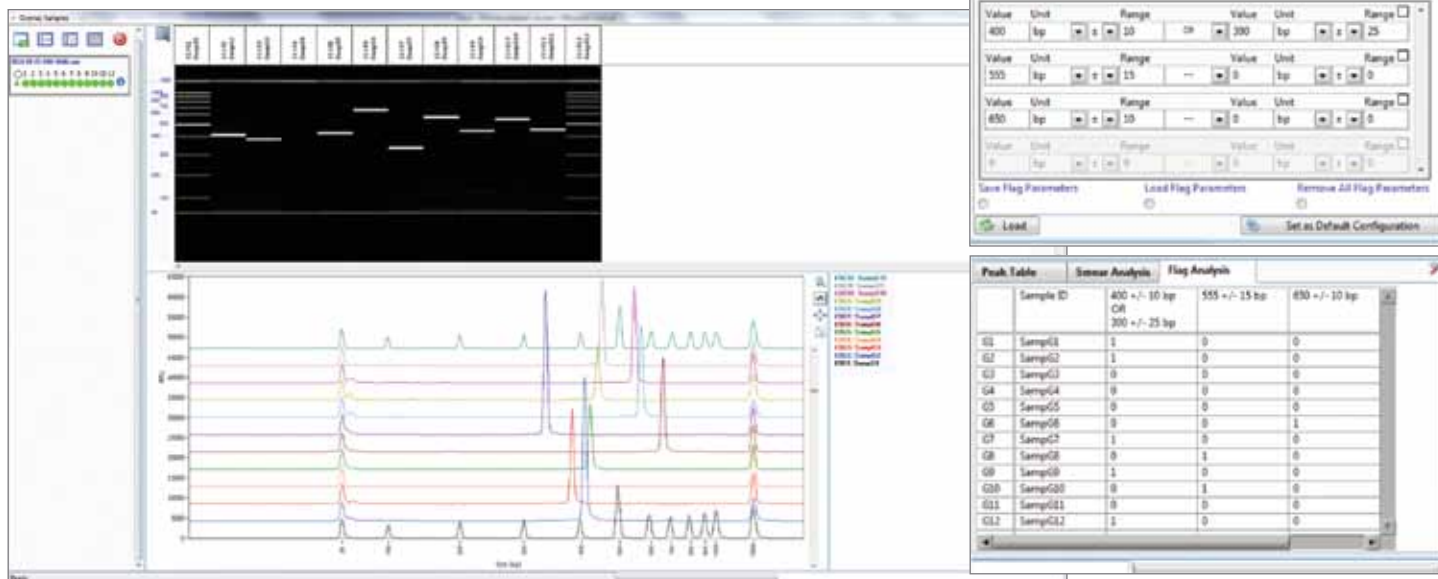
> ANALYTICAL SOFTWARE

IMPROVE THROUGHPUT BY DECREASING ANALYSIS TIME

PROSize™ data analysis software is designed to simplify fragment identification and automate routine scoring and reporting of fragments.

Flexible Data Display

Data can be displayed in electropherogram or digital gel views for any combination of rows, columns or individual samples. Overlay random wells and adjust contrast, show/hide markers, zoom/autoscale and copy to other applications.



Scoring and Output

Create, save and import flag criteria or smear analysis criteria for scoring any data set. Results are displayed immediately in the Flag Analysis or Smear Analysis Table. Results can be exported directly from the Table by mouse functions or exported into either an Excel® or PDF reporting formats.

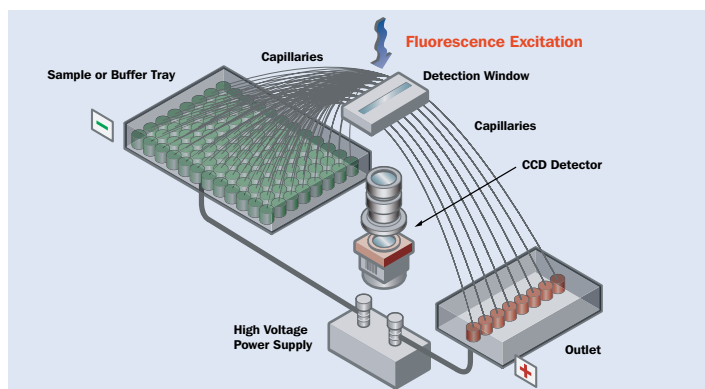
> TECHNOLOGY

AWARD-WINNING TECHNOLOGY* — UNIQUE, UNMATCHED CAPABILITIES

Advanced Analytical's parallel capillary gel electrophoresis separation technology dramatically improves laboratory throughput and efficiency and reduces operational costs.

The *Fragment Analyzer*™ Automated CE System employs a powerful LED to excite separated and intercalated dsDNA or RNA as it passes through the capillary detection window, obviating the need for labeled primers. A sensitive CCD detector is expertly arranged to continuously collect the emitted signals. Proprietary signal processing provides superior dynamic range.

With simultaneous injection and separation of 12 or 96 individual samples, the *Fragment Analyzer*™ Automated CE System is ideal for rapid, high throughput analysis of dsDNA or RNA fragments. Vacuum injection mode, a feature exclusive to the *Fragment Analyzer*™ Automated CE System, provides unique capabilities for high salt sample matrices and more accurate quantification of nucleic acids.



*Best Scientific Poster at TIDES 2005 Conference sponsored by BioProcess International.

*R&D Magazine's Top 100 Technologies for 2001.

*R&D Magazine's Most Promising New Technology Award 2001.



> KEY FEATURES/BENEFITS

- > **12 or 96-Capillary Array Usage** – Direct, parallel injection and separation of 12 or 96 samples at once.
- > **Short Run Times** – As short as 15 min for <3,000 bp. Fast separation of 12 samples or an entire 96-well plate cycle. Get more done in less time.
- > **High Sensitivity** – Detection limits as low as 5 pg/μL without desalting, allows direct injection of PCR and digest samples.
- > **High Separation Resolution** – Resolve a wide range of DNA fragments and RNA. Achieve as low as 2 bp resolution. Custom gels can be developed.
- > **Wide Dynamic Range** – Covers 3 orders of magnitude. Less optimization needed, each kit/gel has a defined optimum fragment concentration range.
- > **Low Cost per Sample** – Lower operational cost compared to agarose/acrylamide gels and other analytical instruments.
- > **User Friendly Software** – Automate data scoring. Calculate fragment size and concentration, display data in multiple formats, create and save customized scoring parameters, export and report results with ease.
- > **Real Time Viewing of Data** – See results as they are being generated, change conditions during a run if desired.

> *Fragment Analyzer*™ AUTOMATED CE SYSTEM TECHNICAL SPECIFICATIONS

Maximum Sample Throughput:	Array dependent, either 12 or 96 samples
Maximum Unattended Sample Capacity:	Up to 288 samples; unlimited with robotic arm
Minimum Sample Volume:	20 μL of liquid for injection; as little as 1 μL of actual sample required
Gel Sizing Ranges:	35-500 bp; 35-1,500 bp; 75-15,000 bp; 75-20,000 bp
Kits Available:	NGS Fragment Analysis, Genomic DNA, Total RNA, mRNA and TILLiNG
Resolution:	Gel dependent; to as low as 2 bp
Sizing Accuracy:	Typically 5% or better
Detection Sensitivity:	As low as 5 pg/μL; 100pg/μL smear
Light Source:	1,000 mW LED, 470 nm excitation wavelength
Detector:	High sensitivity CCD; 500-600 nm emission wavelength
Software:	<i>Fragment Analyzer</i> ™ instrument control, <i>PROSize</i> ™ data analysis
Data Export Format:	Microsoft® Excel® spreadsheet, binary output option
Environmental Conditions:	Indoor use, normal laboratory environment 20-23°C
Relative Humidity Range:	< 80% (non-condensing)
Electrical:	100-200 VAC; 50-60 Hz; 15 A (Alternate configurations available)
Instrument Dimensions:	Fully configured 61 cm H x 38 cm W x 51 cm D (24 x 14 x 20 in)
Instrument Weight:	38.5 Kg (85 lbs)

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