Applied Biosystems

GeneScan® Analysis Software

- **Automatic peak identification and sizing for convenience and ease of use**
- **Accommodates 5-dye technology for increased productivity**
- **Internal lane standards for accurate and reproducible size calling**
- **Customizable analysis and versatile display capabilities for maximum flexibility**

Introduction

GeneScan® Analysis Software is the first step in analyzing fragment analysis data from the ABI PRISM® family of genetic analysis instruments. GeneScan software is flexible, easy to use, and incorporates features that enable rapid and accurate analysis of data. Its algorithms automatically identify and size each peak relative to an internal size standard, as well as provide peak area and peak height information. The results from GeneScan software can be imported and filtered by sophisticated algorithms in Genotyper® software to provide final results such as allele calls and automated table building.

GeneScan Analysis Software performs fragment analysis on data from the ABI PRISM 310, 377, 3100, and 3700 automated DNA sequencers.

The proven algorithms integrated into GeneScan software yield accurate and reproducible results for fragment analysis applications including:

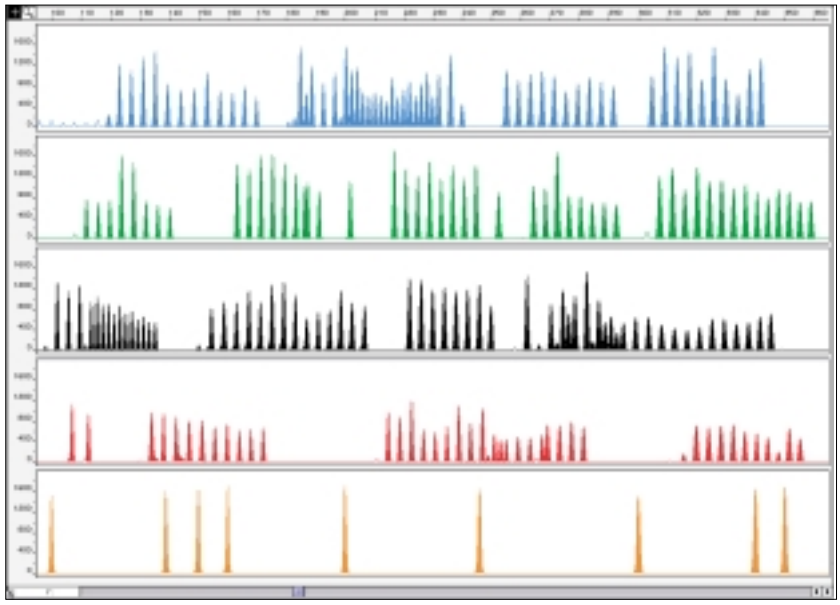

Figure 1. GeneScan software plot of the AmpFℓSTR® Identifiler™ Allelic Ladder. The new PET™ dye (red) used to label PCR products increases in-lane multiplexing throughput capabilities when used along with 6-FAM™ (blue), VIC™ (green) and NED™ (yellow, depicted as black) dyes. The LIZ™ dye (orange) is used to label the GeneScan™ 500 LIZ Size Standard.

- Disease research: linkage analysis and association studies
- Human identification: forensic and paternity testing
- Molecular diagnostic research: Fragile X, cystic fibrosis (CF) and loss of heterozygosity (LOH) assays
- Livestock breeding: animal parentage testing and animal genotyping
- Agricultural and microbial typing: amplified fragment length polymorphism (AFLP®) technique

Increased Productivity with 5-Dye Technology

Applied Biosystems pioneered multicolor DNA fragment analysis with its four-dye system that includes three colors for labeling sample fragments, and a fourth color to label size standard fragments. To meet the demands for higher throughput and greater genotypic data per run, Applied Biosystems introduced the current industry-standard 5-dye technology. GeneScan software and the 5-dye technology enhance multiplexing during electrophoresis in several fragment analysis applications, including linkage mapping, single nucleotide polymorphism (SNP) analysis with the SNaPshot™ Multiplex Kit, and forensic and paternity testing using the AmpFℓSTR® Identifiler™ PCR Amplification Kit.

Accurate and Reproducible Size Calling

GeneScan Analysis Software utilizes internal-lane size standards to minimize capillary-to-capillary and

run-to-run variability. Internal-lane size standards consist of fragments of known sizes, which are added to and electrophoresed with every sample being investigated. GeneScan software determines a sizing curve based on the mobility of the known fragments of the size standards. The software then calculates the peak sizes by comparing the mobility of each peak in the sample to the size curve.

Automated and Customizable Analysis

GeneScan Analysis Software automatically analyzes data collected from each sample. Built-in flexibility allows the user to utilize the default analysis setting or create custom analysis parameters.

Versatile Display Capabilities

GeneScan software is built with sophisticated display tools to allow maximum flexibility in viewing data.

- Examine an overview or a detailed report
- Display up to 128 samples simultaneously
- Compare samples to one another
- Present data in a graphical and tabular format
- Apply custom analysis parameters to one or a set of samples
- Overlay a set of selected samples
- Access sample information from data collection software
- Adjust signal intensity and colors
- Display individual size standard curves

Project-Based Analysis

GeneScan Analysis Software provides flexibility in setting up projects. A project can contain samples from multiple runs. Within a project, samples can have unique analysis parameters and size standards.

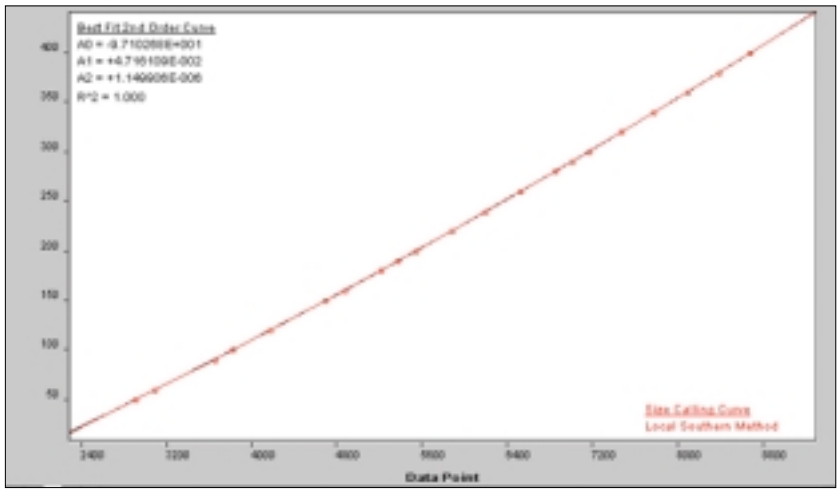

Figure 2. View of the standard curve window

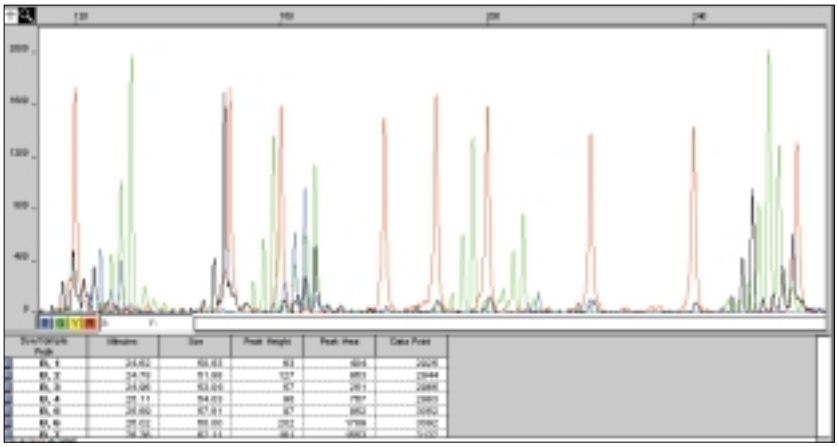

Figure 3: Electropherogram and tabular views of data. Viewing of data is easy with zooming, and adjustable horizontal and vertical scale

ABI PRISM® Instruments	Fragment Analysis Applications	ABI PRISM Reagent Kits	ABI PRISM Software Applications	Sample Management Solutions
ABI PRISM® 310 377 3100 3700 automated DNA sequencers	Fragment sizing	Size Standard kits	GeneScan® Analysis Software	Sequence Collector Software
	Differential display	Size Standard kits		
	Amplified fragment length polymorphism (AFLP)	AFLP® kits & Size Standard kits		
	Single-strand confirmation polymorphism (SSCP)	Size Standard kits		
	LOH assays	Size Standard kits	GeneScan® Analysis Software and Genotyper® Software	
	Fragile X assays	Fragile X Size Polymorphism Assay Kit & Size Standard kits		
	Cystic fibrosis (CF) assays SNP analysis	CF Assay system & Size Standard kits SNaPshot™ Multiplex Kit & Size Standard kits		
	Animal parentage	StockMarks® kits & Size Standard kits		
	Human identification casework	Size Standard kits		
	Human identification databanking	AmpFℓSTR® kits & Size Standard kits	GeneMapper™ Software & LinkMapper™ Software *or* GeneScan®Analysis Software & Genotyper® Software	
	Paternity testing	Size Standard kits		
	Linkage analysis	Linkage Mapping Sets & Size Standard kits		

Table 1. Applied Biosystems Fragment Analysis products—a complete system for your fragment analysis studies. (Please contact your local Applied Biosystems sales representative for more information about applications that are supported on your ABI PRISM instrument.)

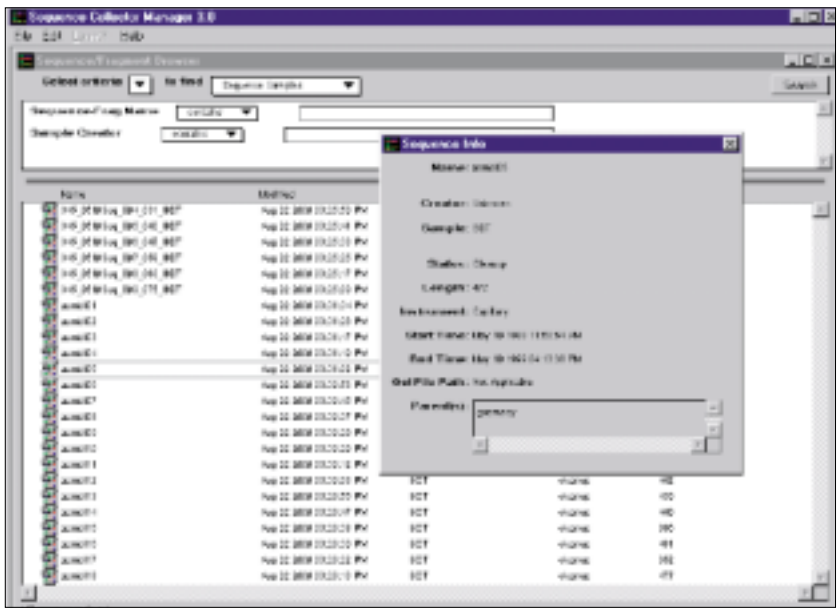

Figure 4: Sequence Collector Software efficiently manages sample files.

Complete Fragment Analysis Systems

Applied Biosystems offers fully integrated instruments, reagent kits, analysis software packages, and a sample file management solution that enable a wide range of fragment analysis studies. (See Table 1.)

GeneScan and Genotyper software are designed to analyze up to 8,000 genotypes per day. GeneScan and Genotyper software are equipped with flexible feature sets and accurate algorithms that provide reliable results for many types of studies.

GeneMapper™ software is a high-performance application that integrates features from GeneScan software and Genotyper software for linkage analysis and association applications. GeneMapper software provides automated analysis and confidence values for up to 48,000 genotypes per day. This tool is the application of choice for linkage mapping, human identification databanking, and paternity test studies.

LinkMapper™ software, developed by Genomica Corporation and distributed exclusively by Applied Biosystems, imports data from GeneMapper software to allow you to manage study data, perform inheritance checks, and create linkage files and genetic maps.

Applied Biosystems Sequence Collector software stores sequence and fragment sample files to provide a data-management solution for sample files that integrates seamlessly with other Applied Biosystems products. This product provides for multi-user access, and secure, centralized storage of large numbers of sample files. Users can readily find their data utilizing Sequence Collector query tools and access their data through Sequence Collector-enabled applications.

Minimum Systems Requirements

Two versions of GeneScan software are available for use. One version operates on computers running Mac® OS while the other operates on computers running Windows NT® OS.

GeneScan® Analysis Software for Computers Running Mac® Operating Systems

Computer	Macintosh® Power Mac™ computer
Operating Systems	Mac OS 8.0 to 9.0
Memory	24 MB of RAM (recommend 64 MB)
Drive	CD drive needed

GeneScan® Analysis Software for Computers Running Windows NT® Operating Systems

CPU	Pentium® II processor, 300 MHz
Operating Systems	Windows NT® 4.0, Service Pack 4 or 5
Memory	128 MB of RAM (recommend 256 MB)
Drive:	CD drive needed

For more information about fragment analysis products, please visit http://www.appliedbiosystems.com/apps/

To purchase products from Applied Biosystems online, please visit http://store.appliedbiosystems.com/apps/

Software updates for GeneScan® Analysis Software can be found at http://www.appliedbiosystems.com/support/software/genescan/

Ordering Information

Compatible with Windows NT® 4.0

Description	P/N
GeneScan® Analysis Software (1-user license) Initial license or Add-on license for 3100 Genetic Analyzer	4317379
GeneScan Analysis Software (1-user license) Initial license or Add-on license for 310 Genetic Analyzer	
GeneScan Analysis Software (5-user license) Genotyper Software (5-user license) Initial license and instrument for 3700 DNA Analyzer	4308057
GeneScan Analysis Software (5-user license) Genotyper Software (5-user license) Add-on license for 3700 DNA Analyzer	4308067
GeneScan Analysis Software Additional license (Previous purchase of initial or add-on license required)	4310709
GeneScan Analysis Software Upgrade from Mac® OS to Windows NT OS	4327313
GeneScan Analysis Software and Genotyper Software Upgrade from Mac OS to Windows NT OS	4327314
GeneScan Analysis Software and Sequencing Analysis Software™ Product Upgrade from Mac OS to Windows NT OS	4327315
GeneScan Analysis Software, Genotyper Software and Sequencing Analysis Software Product Upgrade from Mac OS to Windows NT OS	4327316

Compatible with Mac OS

Description	P/N
GeneScan Analysis Software additional license Mac OS	402164

Worldwide Sales Offices

Applied Biosystems vast distribution and service network, composed of highly trained support and applications personnel, reaches into 150 countries on six continents. For international office locations, please call the division headquarters or refer to our Web site at **www.appliedbiosystems.com.**

Applera Corporation is committed to providing the world's leading technology and information for life scientists. Applera Corporation consists of the Applied Biosystems and Celera Genomics businesses.

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