Skip the complex instrument setup and get results faster with a single-cartridge, multiapplication genetic analyzer.
Easy to use for all levels of experience

From a leader in genetic analysis instrumentation, the Applied Biosystems™ SeqStudio™ Genetic Analyzer is the only genetic analyzer that performs simultaneous sequencing and fragment analysis runs on the same plate. The SeqStudio Genetic Analyzer is easy to use with an integrated cartridge–based system, and allows you to access and monitor your run as well as view data remotely. The fully connected genetic analyzer, along with the simple cartridge design, can be easily shared by all researchers in the lab.

The SeqStudio Genetic Analyzer provides the latest advancements in touchscreen usability, allowing you to stay connected to your data easily. The system is designed for both new and experienced users who need simple and affordable Sanger sequencing and fragment analysis, without compromising performance or quality.

- **Universal all-in-one cartridge**—unique functionality integrates POP-1 polymer, anode buffer, a polymer delivery system, and a capillary array; this novel system design allows for an on-instrument reagent life of four to six months (depending on the cartridge reaction size)

- **Obtain results you can trust**—the accuracy that you expect from an Applied Biosystems™ genetic analyzer

- **Reduced setup time**—combine Sanger sequencing and fragment analysis reactions in the same instrument run, enabled by POP-1 polymer and a universal cartridge design

- **Maximize benchtop space**—this compact instrument can be configured as a stand-alone system or with a computer to fit most laboratory needs

- **Traceability and data security**—an optional security, audit, and electronic signature (SAE) software module offers an electronic data chain of custody to help ensure integrity of your data*

- **Easy to access, analyze, and share data anytime, anywhere, with Connect, our cloud-based platform**—remotely monitor your runs, analyze sophisticated datasets in minutes, store data in a secure space, and share results online with colleagues using web browser–based software; monitor your runs in real time from mobile devices

- **Comprehensive software package**—Applied Biosystems™ Sequencing Analysis Software, SeqScape™ Software, Variant Reporter™ Software, GeneMapper™ Software, and Minor Variant Finder (MVF) Software are included with system purchase

- **Get up and running quickly**—every SeqStudio system includes SmartStart™ Orientation to get you up and running quickly in your lab: this covers basic setup, cloud enablement and connectivity, printer networking, starter reagent review, software use, and instrument operation and maintenance

Learn more at [thermofisher.com/seqstudio](http://thermofisher.com/seqstudio)

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* SAE enablement requires on-site field service engineer and PC (desktop or laptop) purchased from Thermo Fisher Scientific.
Generate high-quality data for a variety of applications

Sanger sequencing is the gold standard for sequencing technology—providing a high degree of accuracy, long-read capabilities, and the flexibility to support a diverse range of applications in many research areas. Although Sanger sequencing is highly recognized for DNA sequencing applications, it also supports applications in RNA sequencing and epigenetic analysis, enabling robust, reliable detection and quantitation of markers for cancer and other genetic disease studies. In addition, analysis of DNA fragments allows for a multitude of applications, from genotyping to bacteria identification and from plant screening to gene expression profiling.

**De novo Sanger sequencing**
*De novo* sequencing is the term used to describe the initial sequence analysis performed to obtain the primary genetic sequence of a particular organism.

**Targeted sequencing using Sanger sequencing**
Identifying heterozygous base positions or small insertions or deletions (indels) in genomic DNA is often employed to locate mutations or polymorphisms in diploid organisms, detect genetic rearrangements, and uncover rare variants.

**Plasmid sequencing**
Analysis of inserts subcloned into plasmids.

**Oncoology research**
Maintaining gold-standard quality for studying the presence of mutant alleles in tumor tissue.

**Species identification**
Identification of species in an unknown sample by sequencing DNA of fingerprint loci.

**Next-generation sequencing (NGS) confirmation**
With superior performance and gold-standard Sanger sequencing technology, our genetic analyzers serve as your trusted partner for confirming NGS results.

**CRISPR-Cas9 genome editing analysis**
Confirmation of CRISPR-Cas9–mediated editing events.

**Human cell line authentication**
Analysis of specific genetic fingerprint of highly variable short tandem repeats (STRs).

**Applied Biosystems™ SNaPshot™ genotyping**
Detection of single-nucleotide polymorphisms (SNPs) to understand how the genome influences biological phenotypes.

**Multiplex ligation–dependent probe amplification (MLPA™) analysis of human copy number variation**
Study of inherited human diseases arising from variations in copy number of a locus.

**Generate high-quality Sanger sequencing data with our proven workflow**
We offer a complete product portfolio for every step of the Applied Biosystems™ workflow, from amplifying the DNA template, PCR cleanup, cycle sequencing, and sequencing cleanup to on-instrument consumables.

Find out how our products support each step of the workflow at thermofisher.com/sangerworkflow
Convenience for increased lab productivity

The SeqStudio Genetic Analyzer employs a cartridge-based system designed to be easy to use and easy to maintain. The SeqStudio instrument utilizes an all-in-one cartridge that contains the capillary array, polymer reservoir, and anode buffer (Figure 1).

The all-in-one cartridge design allows:
• Four to six months of on-instrument storage, depending on cartridge reaction size
• Easy removal
• POP-1 polymer
• Sanger sequencing and fragment analysis to be performed with no reconfiguration
• Compatibility with standard 96-well plates or 8-well strip tubes
• Four capillaries
• Radio-frequency identification (RFID) tags that track the number of injections (cartridge) and length of time on the instrument (cathode buffer container)
• Pre-run calibration performed automatically
• Recycling*

Figure 1. Integrated all-in-one cartridge design. The cartridge contains four capillaries, a detector, and a pump system that delivers polymer and buffers.

* Available in certain regions only. For more details, go to thermofisher.com/seqstudiorecycling.
Simple touchscreen interface and software

The SeqStudio Genetic Analyzer offers users the flexibility to set up their plate and samples, and start a run. Additional run modules can be created or modified via the integrated and interactive touchscreen. Results can be viewed in various formats on the screen, including a list or in “plate view” as well as from the sequencing plots or raw electropherograms.

A comprehensive Applied Biosystems™ software package includes the following:

**Sequencing Analysis Software**—uses a base-caller algorithm for pure- and mixed-base calls; analyzes, displays, edits, saves, and prints sample files generated from Applied Biosystems™ DNA and genetic analyzers

**SeqScape™ Software**—designed for mutation detection and analysis, SNP discovery, pathogen subtyping, allele identification, and sequence confirmation

**Variant Reporter™ Software**—designed for reference-based and non-reference–based analysis such as mutation detection and analysis, SNP discovery, and sequence confirmation

**GeneMapper™ Software**—designed to provide DNA sizing and quality allele calls for all Applied Biosystems™ electrophoresis-based genotyping systems; specializes in multiapplication functionality, including amplified fragment length polymorphism (AFLP) analysis, loss of heterozygosity (LOH), and microsatellite and SNP genotyping analysis; includes security and audit features

**MVF Software**—enables 5% somatic variant detection using Sanger sequencing, making Sanger sequencing a fast, cost-effective, and accurate way to call low-frequency somatic variants where the number of relevant targets is limited
Stay connected*

The SeqStudio Genetic Analyzer is integrated with Connect, our cloud-based platform, allowing you to stay connected to your data remotely. Accelerate your research and boost your laboratory’s productivity with the following capabilities:

- Automatic data file uploading and storing
- Remote instrument monitoring
- Web-based applications, including free access to Quality Check (QC), Next-Generation Confirmation (NGC), Variant Analysis (VA), Peak Scanner (PS), and Microsatellite Analysis (MSA)
- Secure, scalable data storage with discretionary access to files and data

**Fast and powerful secondary analysis software to extract and share results**

Applied Biosystems’ Analysis Modules are cloud-based, innovative data analysis applications that bring together multiple datasets in one convenient place, and render them in stunning data visualizations for enhanced analysis and insights. The web browser–based software is compatible with PC or Mac™ computers.

**Anywhere, anytime access**

Access your data with a compatible browser on any device, anytime. Runs can be set up using either the onboard computer or by using Plate Manager, the stand-alone software that operates from Connect, or on a separate computer (Figure 2). Each registered user has a PIN-protected account on Connect.

**Variant Analysis**

Finds variants in samples sequenced on Applied Biosystems genetic analyzers. It reports variants at genomic coordinates and allows users to export variant calls in standard VCF format. It reports genomic annotations for SNPs and provides links to the external databases.

**Microsatellite Analysis**

Microsatellite genotyping software that allows the user to analyze a mixture of DNA fragments, separated by size. This analysis provides a profile of the separation, precisely calculates the sizes of the fragments, and determines the microsatellite alleles present in the sample. Microsatellite analysis is commonly used in the research of microsatellite instability in cancer research, triplet repeat expansion in neurodegenerative diseases, species identification and characterization, and human sample authentication.

* If the optional SAE software module is enabled, cloud connection is disabled and remote access is unavailable.
Service plans designed for you

Service and support plans for the SeqStudio Genetic Analyzer are designed to meet your specific needs. Whether your laboratory requires the highest service levels and adherence to stringent regulatory guidelines, you need to maximize performance with a limited budget, or anything in between, we’ll work with you to develop a solution that best suits your situation.

Comprehensive instrument warranty
Our factory-trained and certified field service engineers focus on delivering the highest-quality workmanship. During the warranty period, all repairs, including engineer time and travel, are covered.

Service plans
You may elect for additional instrument coverage to carry through your warranty period. Service plans provide comprehensive post-warranty support to help you maintain productivity, maximize the value of your investment, and optimize performance with professional consulting services. Benefits include:

- Prioritized response based on your business demands
- Scheduled planned maintenance, enabling optimum reliability
- Latest software updates
- Predictable operating costs, as parts, labor, and engineer travel are included

Table 1. Service plans at a glance.

<table>
<thead>
<tr>
<th>Service Plan</th>
<th>AB Maintenance (Plus)</th>
<th>AB Assurance</th>
<th>AB Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-site response time</td>
<td>Target 2 business days*</td>
<td>Guaranteed 2 business days*</td>
<td>Guaranteed next business day*</td>
</tr>
<tr>
<td>Scheduled on-site maintenance</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Remote instrument diagnostics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Parts, labor, and travel</td>
<td>10% discount (US only)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Priority access to remote service engineer</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Requalification, post-planned maintenance (PM), and critical repairs</td>
<td>✓</td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Troubleshooting by field applications scientist</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

* Response times vary by region.

Compliance and analytical validation services
We’ve designed our compliance services to help you balance business and regulatory requirements. We provide a consulting service for analytical validation that provides protocols, templates, and guidance.

- Instrument Qualification (IQ)
- Operation Qualification (OQ)
- Instrument Performance Verification (IPV)
Technical specifications

<table>
<thead>
<tr>
<th>Instrument specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of capillaries</td>
</tr>
<tr>
<td>Number of dyes</td>
</tr>
<tr>
<td>Sample format</td>
</tr>
<tr>
<td>Applications</td>
</tr>
<tr>
<td>Dimensions (W x D x H)</td>
</tr>
<tr>
<td>Weight</td>
</tr>
<tr>
<td>Power input</td>
</tr>
<tr>
<td>Internal hard-drive storage</td>
</tr>
<tr>
<td>On-instrument tracking</td>
</tr>
</tbody>
</table>

Secondary analysis
- Sequence Analysis Software
- SeqScape Software
- Variant Reporter Software
- GeneMapper Software
- Minor Variant Finder Software
- Sequencing Analysis Modules (QC, VA, and NGC) on Connect
- Fragment Analysis Modules (PS and MSA) on Connect

Warranty
1-year instrument warranty included, extended warranty available

Training
SmartStart Orientation (includes a 1-day, on-site field application scientist training and setup with the Connect platform and online instrument management)

Communication interface
Connect platform with cloud-enabled systems, Wi-Fi, and RJ-45 Ethernet ports

Configuration
Stand-alone, optional desktop or laptop computer

Cartridge specifications

<table>
<thead>
<tr>
<th>Maximum number of injections/reactions</th>
<th>Up to 125 injections/500 reactions or samples (SeqStudio Cartridge v1) Up to 250 injections/1,000 reactions or samples (SeqStudio Cartridge v2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymer type</td>
<td>POP-1 (for performing sequencing and fragment analysis)</td>
</tr>
<tr>
<td>On-instrument shelf life</td>
<td>4 months (SeqStudio Cartridge v1) or 6 months (SeqStudio Cartridge v2) after opening</td>
</tr>
<tr>
<td>Storage</td>
<td>2–8°C</td>
</tr>
<tr>
<td>On-instrument tracking</td>
<td>RFID</td>
</tr>
</tbody>
</table>

Recycling
For more details, go to thermofisher.com/seqstudiorecycling

Ordering information

<table>
<thead>
<tr>
<th>Product</th>
<th>Cat. No.</th>
</tr>
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<tbody>
<tr>
<td>SeqStudio Genetic Analyzer System with SmartStart Orientation (includes SeqStudio Genetic Analyzer, SeqStudio Genetic Analysis Software, SmartStart, SeqStudio 1-day training)</td>
<td>A35644</td>
</tr>
<tr>
<td>SeqStudio Genetic Analyzer System with SmartStart Orientation plus 1-year warranty (includes all items from A35644 plus additional 1-year warranty)</td>
<td>A35645</td>
</tr>
<tr>
<td>SeqStudio Genetic Analyzer System with SmartStart Orientation plus 3-year warranty (includes all items from A35644 plus additional 3-year warranty)</td>
<td>A35646</td>
</tr>
<tr>
<td>SeqStudio Starter Kit</td>
<td>A35000</td>
</tr>
<tr>
<td>SeqStudio Cartridge v1</td>
<td>A33671</td>
</tr>
<tr>
<td>SeqStudio Cartridge v2</td>
<td>A41331</td>
</tr>
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<td>Cathode Buffer Container, 4 pk</td>
<td>A33401</td>
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<tr>
<td>Cathode Buffer Container Reservoir Septa, 20 pk</td>
<td>A35640</td>
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<tr>
<td>96-Well Plate Septa, 20 pk</td>
<td>A35641</td>
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<tr>
<td>8-Strip Tube Septa, 24 pk</td>
<td>A35643</td>
</tr>
<tr>
<td>Integrated Capillary Protector</td>
<td>A31923</td>
</tr>
<tr>
<td>SAE Administrator Console Software v2.0 (optional)</td>
<td>A46170</td>
</tr>
</tbody>
</table>

How to reach us
To find your order support or technical support team, go to thermofisher.com/contactus
For product FAQs, protocols, training courses, and webinars, go to thermofisher.com/technicalresources

Find out more at thermofisher.com/seqstudio