



# SeqStudio Genetic Analyzer for Human Identification

Answers you can trust—in just one click

# Designed for all levels of experience

The Applied Biosystems™ SeqStudio™ Genetic Analyzer for Human Identification (HID) is an easy-to-use four-capillary benchtop system that delivers gold-standard STR fragment analysis and Sanger sequencing with just a simple click. It is easily used across a broad range of Applied Biosystems™ STR kits and applications to help you get answers you can trust. The system offers the same data quality, service, and support you've come to expect from Applied Biosystems™ genetic analyzers, with a modernized experience at an affordable price.

The SeqStudio Genetic Analyzer for HID 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 a simple instrumentation experience for forensic analysis without compromising performance or quality.

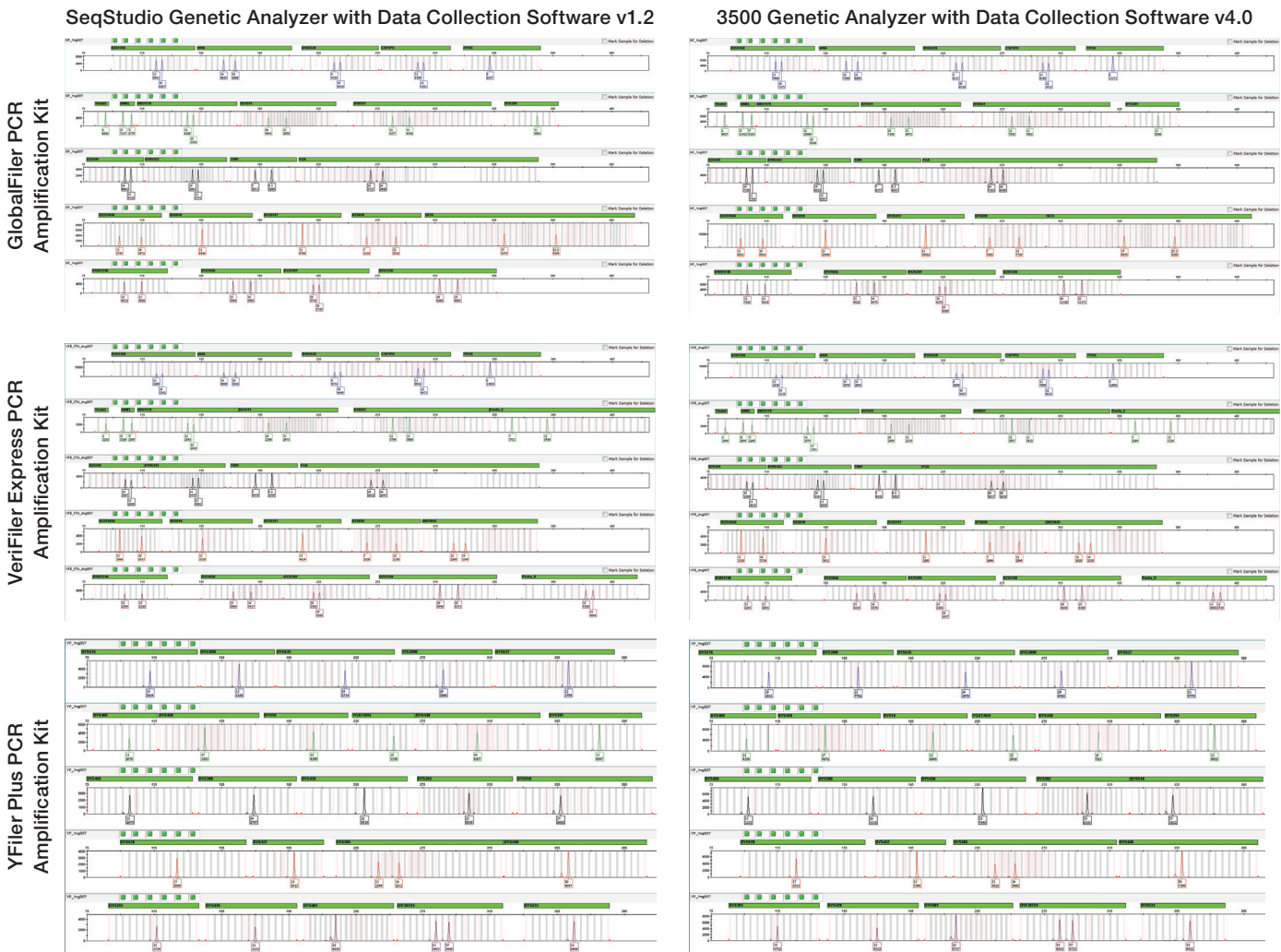


- **Universal all-in-one cartridge**—unique functionality integrates Applied Biosystems™ POP-1™ polymer, anode buffer, a polymer delivery system, and a four-capillary array to minimize instrument setup and maintenance time; this novel system design allows for an on-instrument reagent life of up to six months and 250 injections (1,000 samples)
- **Results you can trust**—optimized data collection software and validated performance with Applied Biosystems STR kits
- **Reduced pull-up (false secondary peak) editing**—autocalibration utilizing sample-specific spectral data and marker-to-marker calibration reduces pull-up editing
- **Seamless data interpretation**—with Applied Biosystems™ GeneMapper™ *ID-X* Software v1.6
- **Protection and traceability**—with security, audit, and e-signature (SAE) software
- **Easy to access, analyze, and share data**—interactive touchscreen with easy-to-use interface; user-enabled Wi-Fi or LAN connectivity
- **Easy inventory management**—with radio-frequency identification (RFID)-enabled tracking of consumables usage
- **Maximize benchtop space**—available as a stand-alone system or with a computer to fit most laboratory needs; can be configured with a door that opens upward to reduce clearance room required
- **Get up and running quickly**—every SeqStudio system includes service installation and a one-day FAS training to help get you up and running quickly in your lab

# Generate high-quality data with Applied Biosystems STR kits

Data collection on the SeqStudio Genetic Analyzer for HID is optimized for performance with Applied Biosystems STR kits to generate data comparable to those from Applied Biosystems™ 3500 Genetic Analyzers with Applied Biosystems™ POP-4™ polymer (Figure 1). Applied Biosystems™ SeqStudio™ Data Collection Software v1.2 incorporates a resolution algorithm and a marker-to-marker pull-up reduction feature that is optimized for the markers in each kit.

The SeqStudio Genetic Analyzer for HID is validated according to the Scientific Working Group for DNA Analysis Methods (SWGDM, December 2016) across the following kits: Applied Biosystems™ GlobalFiler™, GlobalFiler™ IQC, GlobalFiler™ Express, VeriFiler™ Plus, VeriFiler™ Express, Huaxia™, Identifiler™ Plus, MiniFiler™, NGM SElect™, NGM Detect™, YFiler™, and YFiler™ Plus PCR Amplification Kits. A complete validation report that includes genotyping concordance, resolution, minimum detection threshold and contamination, sizing precision and accuracy, sensitivity and dynamic range, signal variability, crosstalk, and carryover studies can be found in the SeqStudio Genetic Analyzer User Bulletin (Pub. No. 100086084).



**Figure 1. Similar performance of the SeqStudio Genetic Analyzer compared to the 3500 Genetic Analyzer.** DNA Control 007 (included in each kit) was amplified with the indicated kit and analyzed on the SeqStudio Genetic Analyzer or 3500 Genetic Analyzer. The reactions contained 4 ng of DNA Control 007 with the VeriFiler Express PCR Amplification Kit, and 1 ng of DNA Control 007 with the other kits.

# Convenience for increased lab productivity

## SeqStudio Cartridge

The SeqStudio Genetic Analyzer for HID employs a cartridge-based system that is easy to use and easy to maintain. This all-in-one cartridge contains the capillary array, polymer reservoir, and anode buffer (Figure 2).

The all-in-one cartridge design allows:

- Six months of on-instrument storage, and 250 injections (1,000 samples)
- Easy installation and replacement
- Universal POP-1 polymer
- STR analysis, fragment analysis, and Sanger sequencing performed with no reconfiguration
- Compatibility with standard 96-well plates or 8-well tube strips
- RFID tags that track the number of injections, usage time, and expiry date of the cartridge and cathode buffer container
- Automatic optical alignment when cartridge installed
- Recycling of cartridge\*



**Figure 2. Integrated all-in-one cartridge design.** The cartridge contains four capillaries, a detector, and a pump system that delivers polymer and buffers.

## Reduced pull-up editing

SeqStudio Data Collection Software v1.2 provides two levels of pull-up reduction to decrease data analysis time, increase confidence in data quality, and allow for a more efficient processing workflow (Tables 1 and 2). The autospectral optimization uses sample-specific spectral data to deconvolute dye overlap for all dye sets, including custom dyes. The new marker-to-marker (MTM) calibration is specific to Applied Biosystems STR kits for HID, and correction is optimized for each marker in each kit.

**Table 1. Low pull-up percentage across sample data.\***

Average pull-up peaks per injection	Mean pull-up percentage	Averaged percent of pull-up $\leq 3\%$
1.3	1.6%	88%

\* Results are shown for 947 pull-up peaks observed in 730 injections of positive control and 5 gDNA samples amplified with the MiniFiler, Identifier Plus, NGM SElect, YFiler, GlobalFiler, YFiler Plus, NGM Detect, or VeriFiler Plus kit at the recommended input. N = 92 injections/kit on four SeqStudio instruments; N = 86 for the NGM Detect kit due to failed injections being omitted from analysis.

**Table 2. Significant reduction in pull-up frequency on the SeqStudio Genetic Analyzer.\***

Frequency	
Pull-up percentage	SeqStudio Genetic Analyzer with Data Collection Software v1.2
0.5%	1
1.0%	2
1.5%	0
2.0%	0
2.5%	0
3.0%	0
3.5%	0
4.0%	0
4.5%	0
5.0%	0
>5.0%	0
<b>Count</b>	3
<b>Median</b>	0.60%
<b>Percent below 3.0%</b>	100.00%
<b>Percent below 5.0%</b>	100.00%

\* A total of 12 DNA samples (1 ng) were amplified with the GlobalFiler PCR Amplification Kit and analyzed on the SeqStudio Genetic Analyzer for Human Identification. Data analysis was performed using GeneMapper ID-X Software v1.6.

\* Available in certain regions only. For more details, go to [thermofisher.com/seqstudiorecycling](http://thermofisher.com/seqstudiorecycling)

# Service and support plans designed for you

There's no time for downtime in your lab. With more than 35 years of service expertise, no one knows the SeqStudio Genetic Analyzer better than we do—the company that designs, builds, and supports them. With more than 1,000 trained professionals ready to assist you, our superior service solutions for Applied Biosystems™ instruments and applications help keep your lab up and running, so you can analyze your cases with complete confidence.



## You're covered

Every new instrument purchase comes with a one-year warranty. Longer-term service plans are also available that include guaranteed response times\* and priority phone access to our trained and certified technical and instrument support specialists. When purchased at the same time as your instrument, these service plans can help maximize system uptime, reduce overall repair costs, get fast repair turnaround time, extend the life of your instrument, and help keep it running at peak performance.

## Beyond repair to proactive care

Our extended warranty packages are designed to maximize instrument performance and help ensure availability of critical systems with preventive maintenance, proactive instrument monitoring, remote diagnostic capabilities, and—should one of your instruments require repair—fast response. Benefits include:

- Guaranteed 2 business day response time\*
- Scheduled on-site planned maintenance (PM)
- Parts, labor, and travel for repair
- Remote instrument diagnostics
- Priority access to remote service engineer

Explore our services and support solutions at [thermofisher.com/instrumentservices](https://www.thermofisher.com/instrumentservices)



## Need help bringing products online?

Look no further than our Human Identification Professional Services (HPS) team. Since 2007, we have completed over 700 validation and integration projects in more than 30 countries worldwide. With a dedicated team of validation specialists, each with forensic experience, we provide customers with unparalleled workflow support on our chemistries, instruments, and software.



\* Guaranteed response times vary by region.

## Ordering information

Product	Quantity	Cat. No.
SeqStudio Genetic Analyzer for HID with Laptop Computer and Training	1 each	A46228
SeqStudio Genetic Analyzer for HID with Desktop Computer and Training	1 each	A46229
SeqStudio Genetic Analyzer for HID with Laptop Computer and Training, 1-Year SeqStudio HID Extended Warranty Plan*	1 each	A46367
SeqStudio Genetic Analyzer for HID with Desktop Computer and Training, 1-Year SeqStudio HID Extended Warranty Plan*	1 each	A46368
SeqStudio Genetic Analyzer RUO to HID Upgrade	1 each	A46230
SeqStudio HID Install Kit	1 each	A46182
SeqStudio HID and Sequencing Install Kit	1 each	A46180
SeqStudio Cartridge v2	250 injections/ 1,000 reactions	A41331
SeqStudio Cathode Buffer Container	4 pack	A33401
Cathode Buffer Container Reservoir Septa	20 pack	A35640
96-Well Plate Septa	20 pack	A35641
8-Strip Tube Septa	24 pack	A35643
MicroAmp Optical 96-Well Reaction Plate with Barcode	500 plates	4326659
MicroAmp Optical 8-Tube Strip	125 strips	4316567
MicroAmp 96-Well Tray/Retainer Sets	10 sets	403081
SeqStudio Integrated Capillary Protector	1 each	A31923
GeneMapper <i>ID-X</i> Software v1.6, Full Installation	1 license	A39975
GeneMapper <i>ID-X</i> Software v1.6, Client Installation	1 license	A39976
GeneMapper <i>ID-X</i> Software v1.6, Full Upgrade	1 license	A38440
GeneMapper <i>ID-X</i> Software v1.6, Client Upgrade	1 license	A38441
SeqStudio Analysis Software (GeneMapper, Sequencing Analysis, Minor Variant Finder, Variant Reporter, and SeqScape Software)	1 license	4443764
HPS Validation Service	1 service	HPS10101
HPS Verification Service	1 service	HPS10103

\* Packages are not available in all regions. Contact your sales representative for availability in your region.

Find out more at [thermofisher.com/hid-seqstudio](https://thermofisher.com/hid-seqstudio)

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