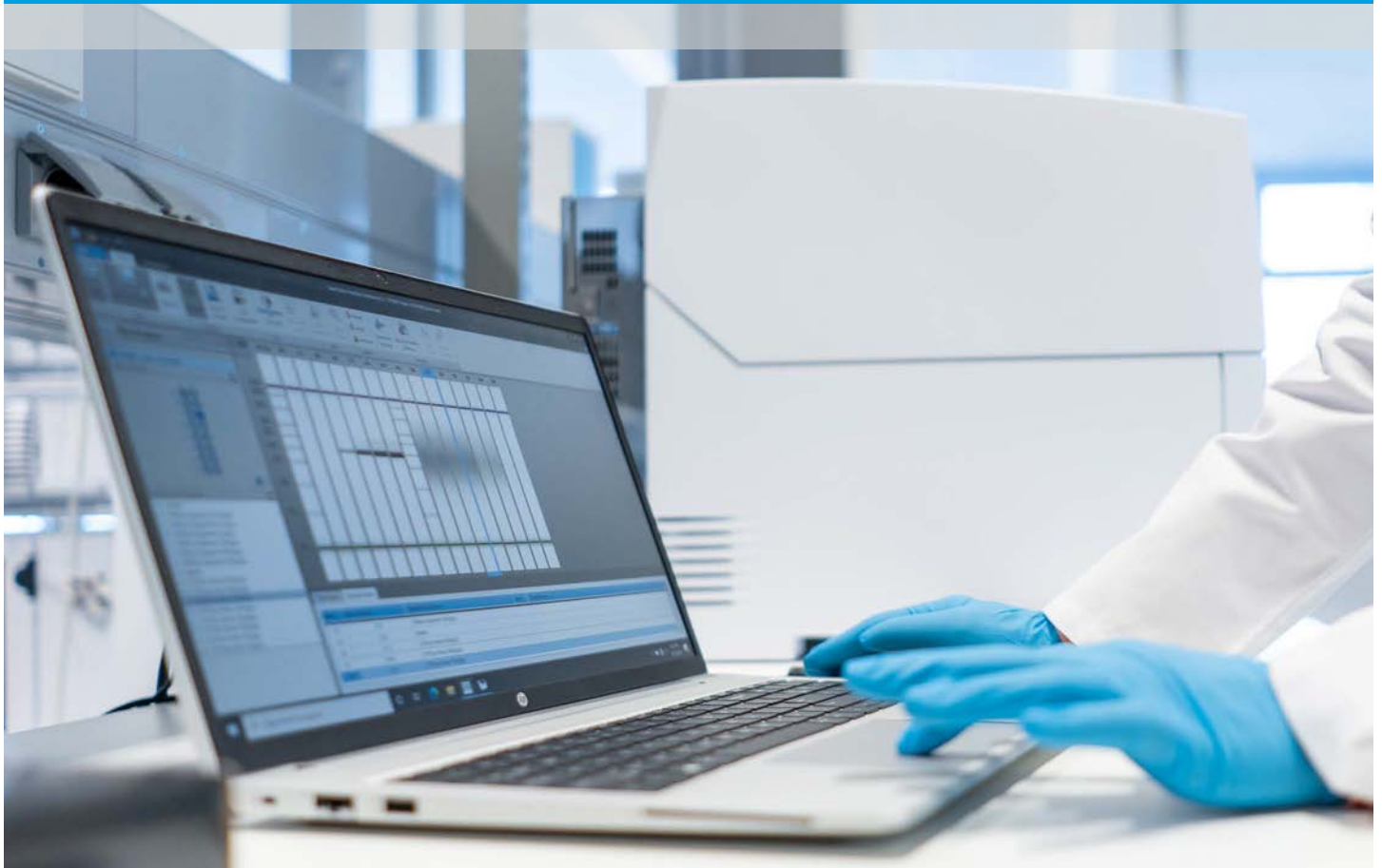


# Complete Success Begins with Sample Quality Control

Agilent 4150 and 4200 TapeStation systems





# Complete Success Begins with Sample Quality Control

Agilent TapeStation systems are automated electrophoresis solutions for quality control (QC) of DNA and RNA samples. Proudly recognized with the My Green Lab ACT label, the TapeStation systems help labs in making greener decisions using thorough environmental impact assessments. These all-in-one platforms include instrumentation, data processing software, reagents, and Agilent ScreenTape devices for analysis of sample size, quantity, and integrity.



Delivering highly accurate and precise analytical evaluation, the systems fit perfectly into next-generation sequencing (NGS) or biobank workflows for low to high sample throughput. Sample QC has never been so fast and easy—simply load the TapeStation instrument with your prepared samples and ScreenTape device, start the run, and review the results within 1 to 2 minutes per sample.



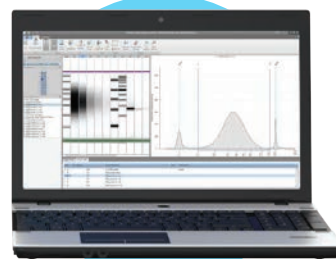
## Step 1

Select ScreenTape assay and prepare samples



## Step 2

Place samples and ScreenTape devices in the TapeStation instrument



## Step 3

Press start and review results in the TapeStation software

## Complete Solutions for End-to-End Sample QC

Agilent TapeStation systems combine automated walk-away sample processing with operational simplicity. The instruments offer constant cost-per-sample in combination with high application flexibility. Ready-to-use consumables ensure straightforward operation with minimum

hands-on time. Reliable results are generated within 1 to 2 minutes per sample. Valuable sample is saved as not more than 2  $\mu\text{L}$  is required. Select a system based on your lab's requirements for sample throughput. The 4200 TapeStation system offers complete scalability from 1 to 96 samples.

Sample loading from two 8-tube strips or a 96-well plate

Complete scalability: Analyze any sample number from 1 to 96 samples

Reliable, reproducible results in less than 90 minutes for 96 samples



4200 TapeStation system

For labs handling smaller numbers of samples, the 4150 TapeStation system for 1 to 16 samples is the affordable, entry-level alternative. Complete assay compatibility guarantees seamless switching between systems.

Both TapeStation instruments support self-maintenance tasks and thus enable an optimized cost of ownership.

Sample loading from two 8-tube strips

Complete scalability: Analyze any sample number from 1 to 16 samples

Reliable, reproducible results in less than 20 minutes for 16 samples

Small footprint saves precious bench space in your laboratory





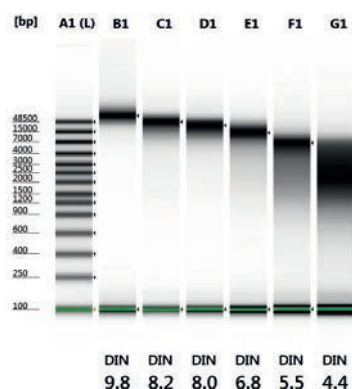
## Full Range of DNA and RNA QC Applications

Agilent DNA ScreenTape assays can be used at several QC steps in next-generation sequencing (NGS) workflows. For example, QC of genomic DNA (gDNA) including DNA integrity number, DIN, (A), QC of cell-free DNA with %cfDNA (B), NGS library QC (C), and analysis of amplified libraries. Additional applications include PCR and multiplex PCR fragment analysis (D) as well as QC of quantitative PCR products. The DIN allows the assessment of input gDNA integrity from multiple sources, including FFPE tissue.

Sample input QC of extracted genomic DNA and cell-free DNA by using the DNA integrity number (DIN) and the %cfDNA, respectively.

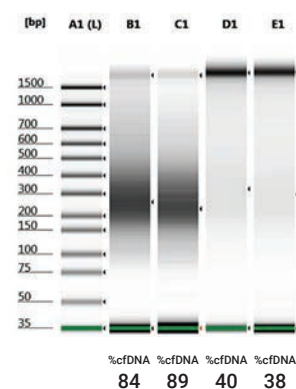
### A Genomic DNA ScreenTape Assay

Human genomic DNA



### B Cell-free DNA ScreenTape Assay

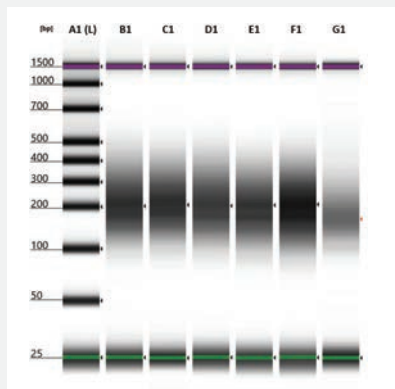
Cell-free DNA



QC in downstream applications such as next-generation sequencing.

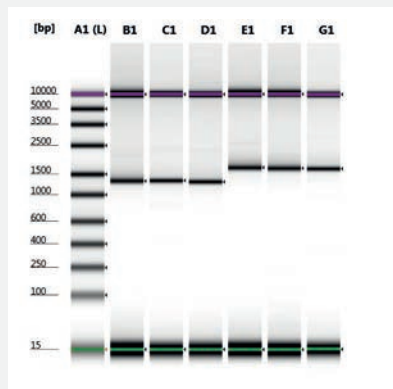
### C High Sensitivity D1000 ScreenTape Assay

NGS library QC



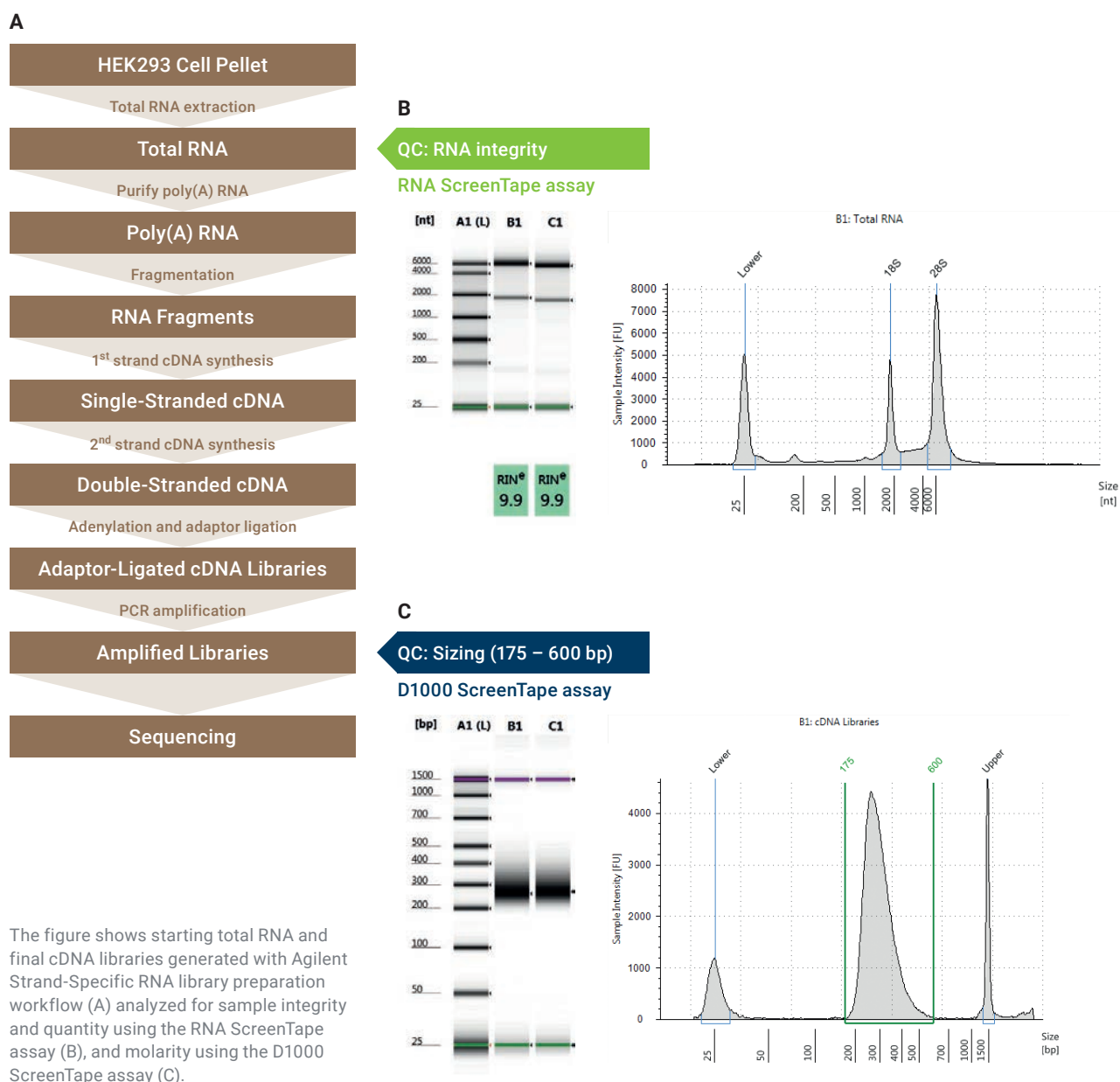
### D D5000 ScreenTape Assay

Long-range PCR amplicons



Genomic DNA smears at different degradation stages (A), cfDNA samples with different amounts of gDNA contamination (B), NGS library QC (C), and long-range PCR fragments (D).

Agilent RNA ScreenTape assays are used for the determination of quality and quantity of total RNA samples from eukaryote or prokaryote origin. The RNA integrity number equivalent (RIN<sup>®</sup>) provides a user-independent integrity score for total RNA.




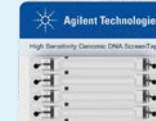
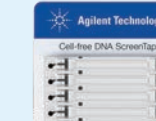


# ScreenTape Assays Cover the Full Range of DNA and RNA QC Applications

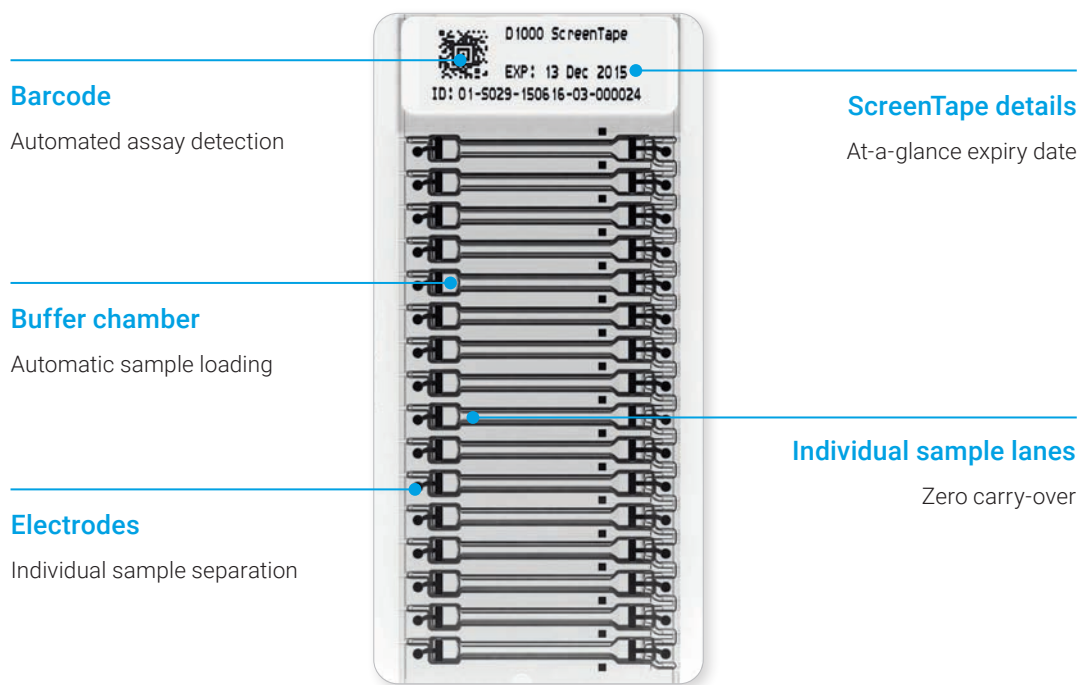
The credit-card-sized, ready-to-use ScreenTape device carries multiple lanes for separating DNA and RNA samples. Each ScreenTape device has 16 lanes so that each sample is analyzed in an individual lane without any risk of cross-contamination. Partially used ScreenTape devices can be used for further analysis, providing constant cost-per-sample.


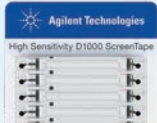

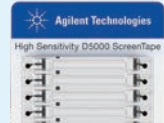
## Complete analytical sensitivity range

Select from a complete ScreenTape assay portfolio for DNA or RNA analysis based on your application and sensitivity requirements.

	RNA QC		DNA QC		
	RNA assay	High Sensitivity RNA assay	Genomic DNA assay	High Sensitivity Genomic DNA assay	Cell-free DNA assay
					
Sizing range	100 – 6000 nt	100 – 6000 nt	200 – 60000 bp	200 – 60000 bp	50 – 800 bp
Quantitative range	25 – 500 ng/μL	500 – 10000 pg/μL	10 – 100 ng/μL	0.5 - 10 ng/μL	100 – 4000 pg/μL
Sample volume needed	1 μL	2 μL	1 μL	2 μL	2 μL
Limit of detection	5 ng/μL	100 pg/μL	0.5 ng/μL	20 pg/μl	20 pg/μL
Integrity assessment	RNA integrity number equivalent (RIN®)	RNA integrity number equivalent (RIN®)	DNA integrity number (DIN)	DNA integrity number (DIN)	%cfDNA

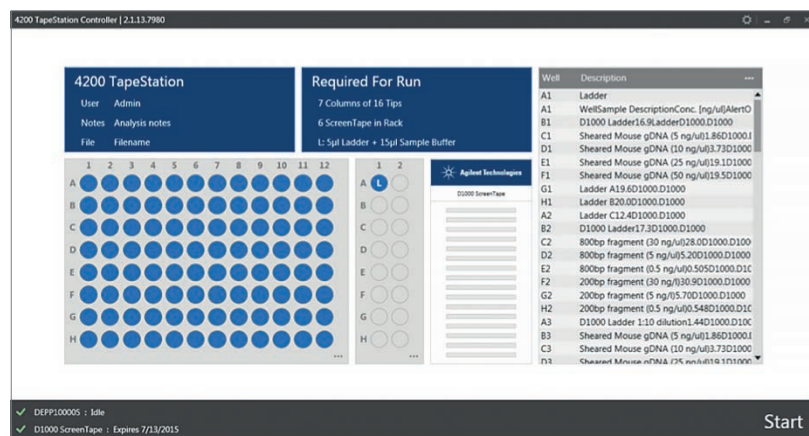




DNA QC continued				
	D1000 assay	High Sensitivity D1000 assay	D5000 assay	High Sensitivity D5000 assay
				
Sizing range	35 – 1000 bp	35 – 1000 bp	100 – 5000 bp	100 – 5000 bp
Quantitative range	0.1 – 50 ng/μL	10 – 1000 pg/μL	0.1 – 50 ng/μL	10 – 1000 pg/μL
Sample volume needed	1 μL	2 μL	1 μL	2 μL
Limit of detection	0.1 ng/μL	5 pg/μL	0.1 ng/μL	5 pg/μL

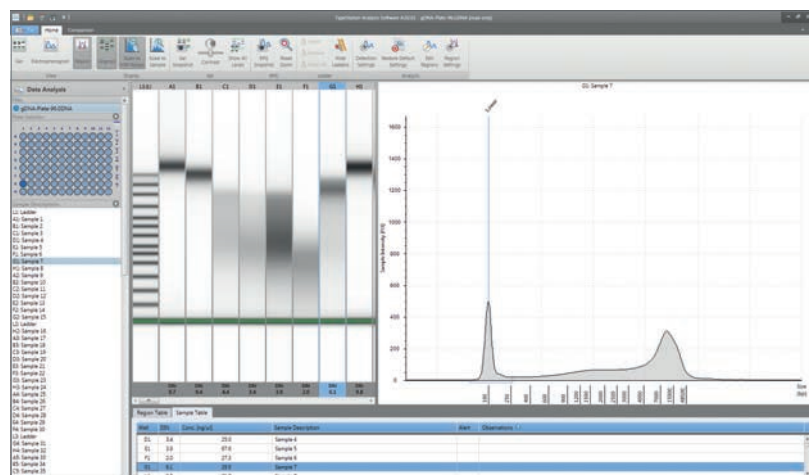
# Streamlined Operation Including Software, Services, and Support

Streamline instrument control as well as data analysis and reporting with TapeStation software. Results can be displayed as familiar gel image, as electropherogram, or in tabular format for effortless sample comparison. The software automatically determines sample size, quantity, and molarity. In addition, for genomic DNA, the DNA integrity number (DIN), for total RNA the RNA integrity number equivalent (RIN<sub>e</sub>), and for cell-free DNA the %cfDNA are calculated.



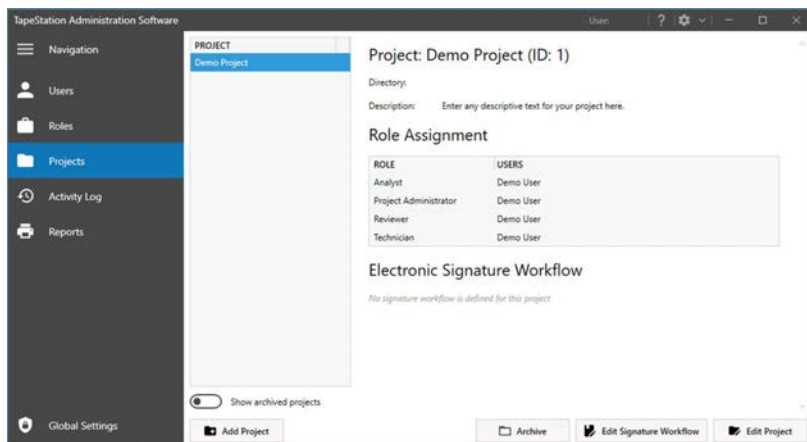
## TapeStation Controller software

- Automated assay selection through ScreenTape barcode
- Intuitive and flexible sample selection
- Highlighting of required consumables and reagents for the run



## TapeStation Analysis software

- Easy navigation through sample results
- Customizable results presentation
- Reporting and export in various formats



## TapeStation software security module

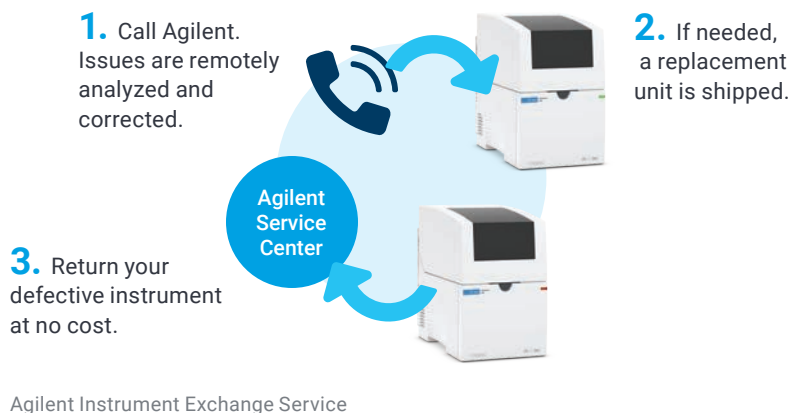
- Support compliance with FDA 21 CFR Part 11, EU Annex 11, GxP, and other electronic record regulations
- Ensure data integrity through audit trails, access management, and data approval and approval workflows

## Get peace of mind through comprehensive instrument and assay introduction

Agilent offers a startup service to familiarize you with the instrument and software, as well as an assay of your choice. This service is delivered onsite and gets you into analyzing your own samples—fast.

## Additional support services

One-year standard warranty is included in both TapeStation systems. This may be upgraded to CrossLab Silver level and extended to cover up to five years total warranty time. This premium service includes instrument exchange or return for repair, and an annual system preventive maintenance service. Choose from additional service options, e.g. compliance services (IQ/OQ), to suit your lab's specific service-level needs.



## Empower your lab for a greener future

The Agilent TapeStation systems are now certified with the Accountability, Consistency, and Transparency (ACT) label from My Green Lab. The ACT label displays the environmental impact of manufacturing, using, and disposing of a product and its packaging.

Learn more at:

[www.agilent.com/chem/my-green-lab](http://www.agilent.com/chem/my-green-lab)



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PR7003-104

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Published in the USA, September 10, 2025  
5994-0060EN