

Build Consistency into Your Lab's Workflow

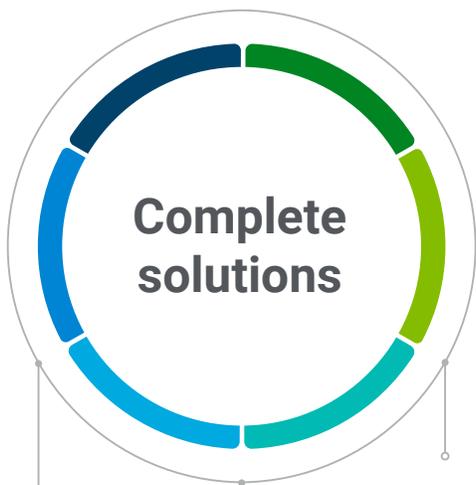
With the Agilent automated electrophoresis portfolio





Build Consistency with a Complete Solution

No matter your laboratory's sample capacity needs, our complete portfolio of automated electrophoresis instruments, application-specific assays, intuitive software, and expert technical services provide your lab with flexible solutions for robust and objective sample quality assessment.



Versatile instrument control and data analysis software for ease-of-use



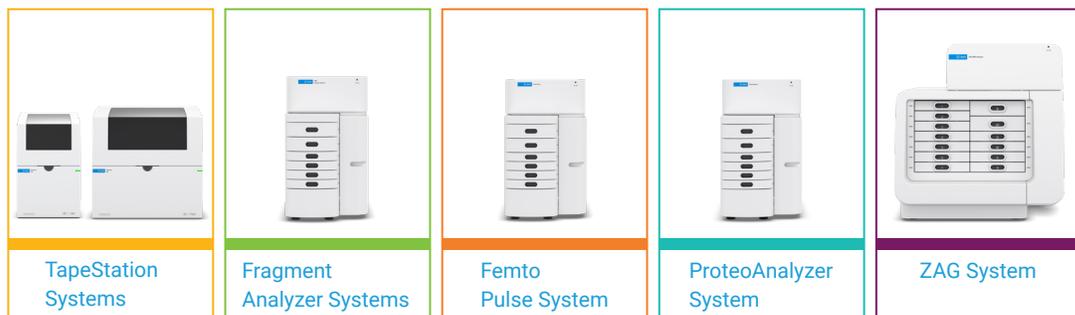
Application-specific kits and reagents



The Agilent automated electrophoresis instrument portfolio offers, automated capillary electrophoresis and ScreenTape technologies

Instrument Options for a Variety of Nucleic Acid and Protein Applications

Whether you need to assess the integrity of nucleic acids or protein samples, our automated electrophoresis instruments can support your application.



DNA applications					
NGS libraries	✓	✓	✓		
Cell-free DNA	✓	✓	✓		
Genomic DNA/FFPE DNA	✓	✓	✓		
Long-read sequencing libraries			✓		
Large fragment DNA		✓			
Plasmid DNA		✓			
PCR fragments	✓	✓			✓
Restriction digest	✓	✓			✓
Microsatellites		✓			✓
BACs			✓		
RNA applications					
FFPE RNA	✓	✓	✓		
IVT RNA	✓	✓			
Total prokaryotic and eukaryotic RNA	✓	✓	✓		
Small RNA		✓			
MicroRNA		✓			
mRNA		✓	✓		
Plant RNA		✓	✓		
Protein applications					
Reduced and non-reduced antibody				✓	
Membrane protein				✓	
Secreted proteins				✓	
Total protein extractions				✓	
Protein purification fraction analysis				✓	

Proven Sample Quality Metrics for Multiple Applications

Whether you are working with genomic DNA (gDNA), cell-free DNA (cfDNA), or FFPE RNA, you can find reliable quality metrics suited to your application.



RNA	RIN ^e	RQN
FFPE RNA	DV ₂₀₀	
gDNA/FFPE DNA	DIN	GQN
cfDNA	%cfDNA	

RIN ^e and RQN	DIN and GQN	%cfDNA	DV ₂₀₀
<p>RNA integrity number equivalent (RIN^e)</p> <ul style="list-style-type: none"> Numerical assessment of RNA quality on a scale of 1 (strongly degraded) to 10 (highly intact) Available on the Agilent TapeStation systems <p>RNA quality number (RQN)</p> <ul style="list-style-type: none"> Numerical assessment of RNA quality on a scale of 1 (strongly degraded) to 10 (highly intact) Available on the Agilent Fragment Analyzer and the Femto Pulse systems 	<p>DNA integrity number (DIN)</p> <ul style="list-style-type: none"> A numerical rating of genomic DNA quality by assigning each gDNA sample a score from 1 (strongly degraded) to 10 (highly intact) Available on the Agilent TapeStation systems <p>Genomic DNA quality number (GQN)</p> <ul style="list-style-type: none"> You define the genomic DNA fragment size threshold for your application and the software calculates the quality value based on that threshold Available on the Agilent Fragment Analyzer and the Femto Pulse systems 	<p>Percent cell-free DNA (%cfDNA)</p> <ul style="list-style-type: none"> Measures cell-free DNA in a sample in comparison to total sample present Measures concentration of contaminating high molecular weight DNA fragments Available on the Agilent TapeStation systems 	<p>Distribution value 200 (DV₂₀₀)</p> <ul style="list-style-type: none"> A metric that assesses FFPE RNA quality The metric indicates how much of the sample is made of RNA fragments 200 nucleotides or longer The greater the DV₂₀₀, the more likely the sample will yield successful NGS data Available on Agilent TapeStation, Fragment Analyzer, and Femto Pulse systems

Instrument Options for Any Throughput

You can build consistency into your lab's workflow by assessing the quantity and integrity of your nucleic acid samples. If your lab's sample capacity is ultra-low, medium, or ultra-high, Agilent has the sample quality control and fragment analysis solution that fits your need.



4150 TapeStation System	5200 Fragment Analyzer System	Femto Pulse System	ProteoAnalyzer System
<ul style="list-style-type: none"> – 1–16 samples – Key applications: NGS libraries, cell-free DNA, genomic DNA, PCR fragments, total RNA and IVT RNA – Fast time to result: 1–2 minutes/sample 	<ul style="list-style-type: none"> – 12–288 samples – Key applications: NGS libraries, cell-free DNA, genomic DNA, large fragment DNA, PCR fragments, total RNA and IVT RNA – High separation resolution: As good as 3 bp from fragments under 300 bp 	<ul style="list-style-type: none"> – 12–288 samples – Key applications: High molecular weight genomic DNA, long-read sequencing libraries, NGS libraries, cell-free DNA, BAC digest analysis and total RNA – Pulsed field technology: Size high molecular weight DNA through 165 kb 	<ul style="list-style-type: none"> – 1–12 samples – Key applications: Reduced and non-reduced antibody, membrane protein, secreted proteins, total protein extractions, protein purification fraction analysis – Fast time to result: 30 minutes total run time for 12 samples
			

Medium throughput

High throughput

Ultra-high throughput

5300 Fragment Analyzer System

5400 Fragment Analyzer System

ZAG DNA Analyzer System

4200 TapeStation System	5300 Fragment Analyzer System	5400 Fragment Analyzer System	ZAG DNA Analyzer System
<ul style="list-style-type: none"> – 1–96 samples – Key applications: NGS libraries, cell-free DNA, genomic DNA, PCR fragments, total RNA and IVT RNA – Fast time to result: 1–2 minutes/sample 	<ul style="list-style-type: none"> – 48–288 samples – Key applications: NGS libraries, cell-free DNA, genomic DNA, large fragment DNA, PCR fragments, total RNA and IVT RNA – High separation resolution: As good as 3 bp from fragments under 300 bp 	<ul style="list-style-type: none"> – Over 2,400 samples/day – Key applications: NGS libraries, cell-free DNA, genomic DNA, large fragment DNA, PCR fragments, total RNA and IVT RNA – Robotic integration: Interface with a robotic arm through API commands 	<ul style="list-style-type: none"> – 4,600 samples/day – Key applications: PCR fragments, microsatellites, and restriction digests – Fast time to result: Separation of 96 samples in 20 minutes 

Nucleic Acid Analysis with Automated Electrophoresis Systems

Improve molecular workflows such as next-generation sequencing, gene engineering, and biopharmaceutical research with fragment analysis and sample quality control. Our automated electrophoresis systems offer flexibility for a wide range of DNA and RNA applications.

Agilent TapeStation Systems

The Agilent 4150 and 4200 TapeStation systems combine automated walk-away sample processing with operational simplicity.

The instruments offer constant cost per sample and high application flexibility. Ready-to-use consumables ensure simple operation with minimal hands-on time.

Key benefits

- Fast analysis time
- Constant cost per sample
- Ready-to-use ScreenTape devices
- Application flexibility



Agilent Fragment Analyzer Systems

Using automated parallel capillary electrophoresis, Agilent Fragment Analyzer systems offer nucleic acid quality control for a range of applications, including NGS libraries, cell-free DNA (cfDNA), and RNA QC.

Simple sample preparation, automated operation, and intuitive analysis software contribute to efficient and accurate measurement.

Key benefits

- Broad range of DNA and RNA kits
- Seamless switching between applications
- Minimal instrument preparation
- Unattended operation



Agilent Femto Pulse System

This system separates high-molecular-weight (HMW) DNA using a pulsed-field power supply and can detect femtogram quantities of nucleic acids for low-input sample types.

The Agilent Femto Pulse system is 1000 times more sensitive and 10 times faster than agarose pulsed-field gel electrophoresis (PFGE). It can separate DNA smears and fragments as large as 165,000 bp in about 1.5 hours.

Key benefits

- Large fragment separation
- Femto-gram level sensitivity
- Simple sample preparation
- Powerful analysis software



Agilent ZAG DNA Analyzer System

The Agilent ZAG DNA Analyzer system relieves bottlenecks in automated high-throughput DNA fragment analysis workflows.

Using parallel capillary electrophoresis, the system can process thousands of DNA fragment samples per day, eliminating barriers associated with agarose gel use.

Key benefits

- High throughput
- Broad sizing range
- Fast separation time
- High separation resolution



Agilent OligoPro II System

The Agilent Oligo Pro II system is a specialized solution within the automated electrophoresis portfolio.

It provides high-resolution separations and direct detection of both single-stranded DNA (ssDNA) and single-stranded RNA (ssRNA) oligonucleotides.

Key benefits

- High-throughput UV absorption oligonucleotide purity assessment
- Low sample cost for routine quality control
- n-1 resolution through 60 nt
- 12, 24, or 96 capillary arrays provide for throughput scalability



Agilent ProteoAnalyzer System

The Agilent ProteoAnalyzer system brings added efficiency, versatility, and reliability for protein QC workflows.

Able to separate 12 samples in as little as 30 minutes, this system is designed to eliminate the laborious process of SDS-PAGE gel preparation, staining, destaining, and analysis.

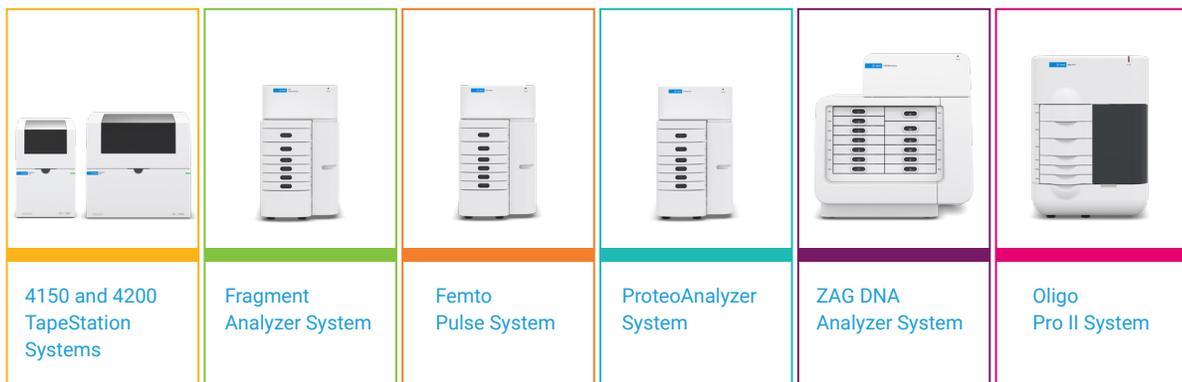
Key benefits

- Automated separation, capillary rejuvenation, and data processing
- Simplified, streamlined sample preparation
- Wide range of protein sample types



Protect the Instruments that Power Your Sample QC and Fragment Analysis Workflows

Maximize uptime, ensure instrument compliance, and control your service costs with Agilent CrossLab services for your automated electrophoresis instruments.



Repair Type	IE Preferred/RTA	Onsite	Onsite	Onsite	Onsite	Onsite
Extended Warranty	✓					
Enhanced Extended Warranty	✓	✓	✓	✓	✓	✓
CrossLab Service Plans	✓	✓	✓	✓	✓	✓
Preventive Maintenance	✓	✓	✓	✓	✓	✓
Compliance (IQ/OQ)	✓	✓				

IE = Instrument Exchange RTA = Return to Agilent

Download service brochure

www.agilent.com/cs/library/brochures/brochure-crosslab-genomics-5994-1585en-agilent.pdf

Additional Resources

Visit our sample quality control solution pages to find technical overviews, application notes, webinars, and videos for NGS workflows, vaccine development and biobanks.

www.agilent.com/en/solutions/genomics-applications-solutions/sample-qc

Are you
interested
in the

Automated
Electrophoresis
Portfolio?



Let us know your lab's
needs and we will contact
you to find the best
solution to meet them.

Learn more about the Agilent automated electrophoresis systems at:
www.agilent.com/genomics/automated-electrophoresis

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