

Agilent 2100 Bioanalyzer System

# SECURE EXPERIMENTAL SUCCESS



**Agilent Technologies**

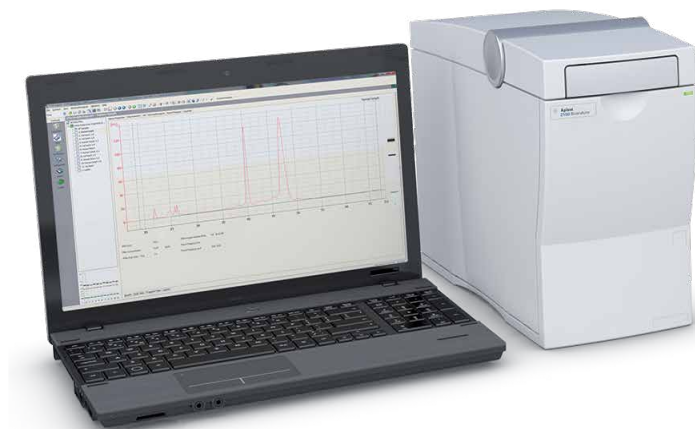
## SECURE EXPERIMENTAL SUCCESS

### Trust the quality of your samples

Sample quality is of paramount importance for experimental success. Introduced in 1999, the Agilent 2100 Bioanalyzer system was the first commercially available instrument for miniaturized analysis of biological samples with on-chip electrophoresis.

With citations in more than 35,000 scientific papers, the Agilent 2100 Bioanalyzer system is a well-established tool for quality control of RNA and DNA samples. The fast electrophoretic analysis of biomolecules – DNA, RNA, and proteins – results in digital data providing objective information about concentration, size and integrity.

Even with limited material, the 2100 Bioanalyzer system offers unprecedented speed, flexibility, sensitivity and reproducibility. Trust the integrity values and concentrations of your precious samples for highest confidence in your downstream experiments.



**The Agilent 2100 Bioanalyzer system,** combined with prepackaged kits including chips and reagents, and intuitive software with application specific assays, provides a versatile solution for quality control ensuring experimental success.



# GET RELIABLE RESULTS

## 1. Add sample



## 2. Start chip run



## 3. Watch real-time data display



### Key benefits

#### High sensitivity

Down to pg/ $\mu$ L concentration

#### Minimum sample consumption

Only 1-4  $\mu$ L of sample required

#### Highly flexible

On-chip electrophoresis of DNA, RNA, and proteins

#### High quality digital data

RIN algorithm for RNA sample integrity; DNA and protein sample quality control

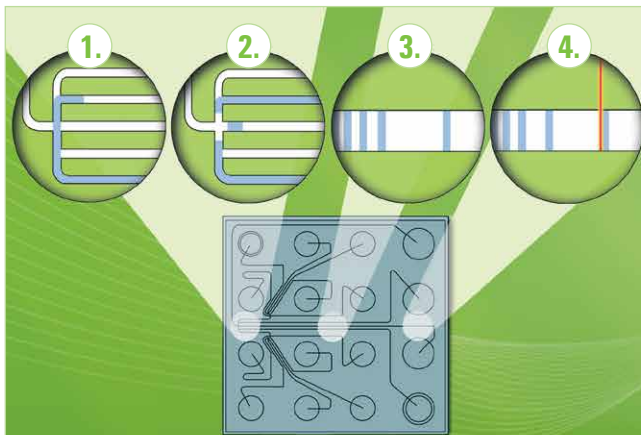
#### Contamination-free

Exchangeable electrode cartridge for an easy switch between methods

#### Compliance services and software

21 CFR Part 11 compliant software and IQ/OQ services

### Principle of operation



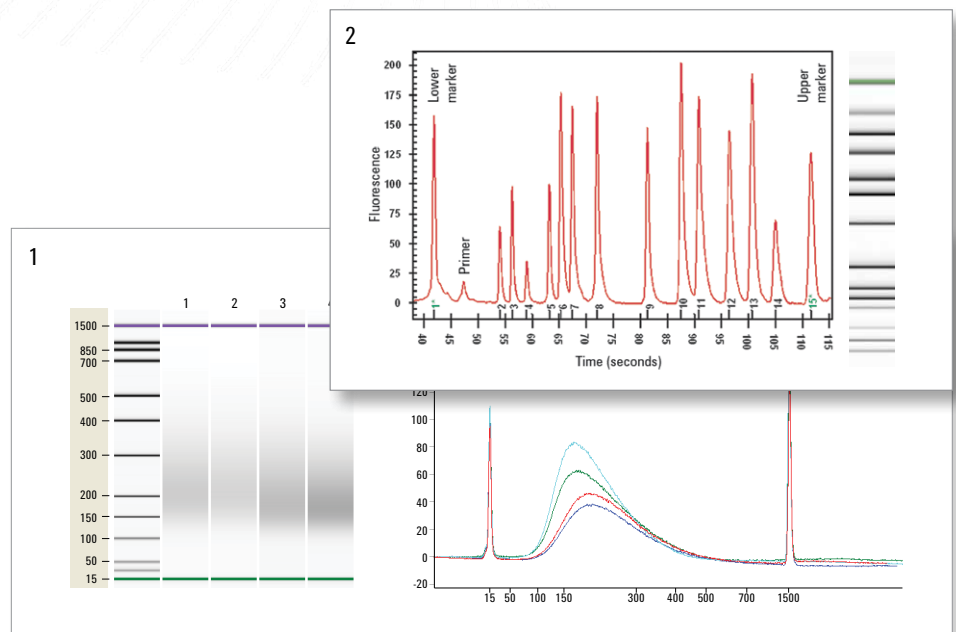
1. The sample moves through the microchannels from the sample well.
2. The sample is injected into the separation channel.
3. Sample components are electrophoretically separated.
4. Components are detected by their fluorescence and translated into gel-like images (bands) and electropherograms (peaks).

# A WIDE RANGE OF APPLICATIONS

Assessing the quantity and quality of your experimental starting material is essential for research success. The Agilent 2100 Bioanalyzer system is a versatile tool for sample quality control (QC) in many workflows, including next generation sequencing, gene expression, and proteomics. It allows evaluation of integrity, concentration and purity of RNA, DNA and protein samples derived from a large range of origins, including FFPE samples, laser-microdissected tissues, and biopsies.

## DNA fragment analysis

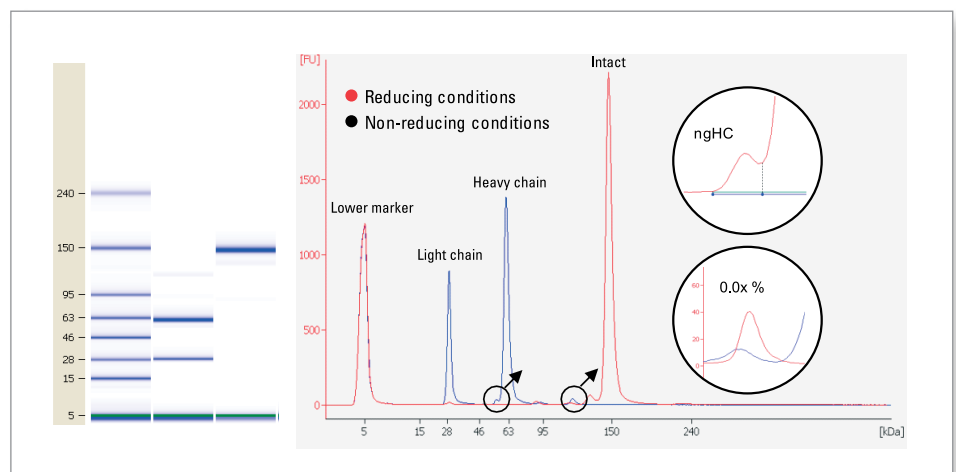
- Sample QC in next generation sequencing:
  - Size distribution analyses
  - QC of PCR-amplified libraries
- PCR validation and impurity check
- Restriction digestion analysis
- Food analysis



1. Size distribution analysis of fragmented DNA 2. Multiplex PCR of 13 amplicons

## Protein applications

- Optimization and monitoring of protein purification
- Protein expression
- Protein production
- Food analysis
- Quality control of antibodies
- Absolute quantitation of proteins

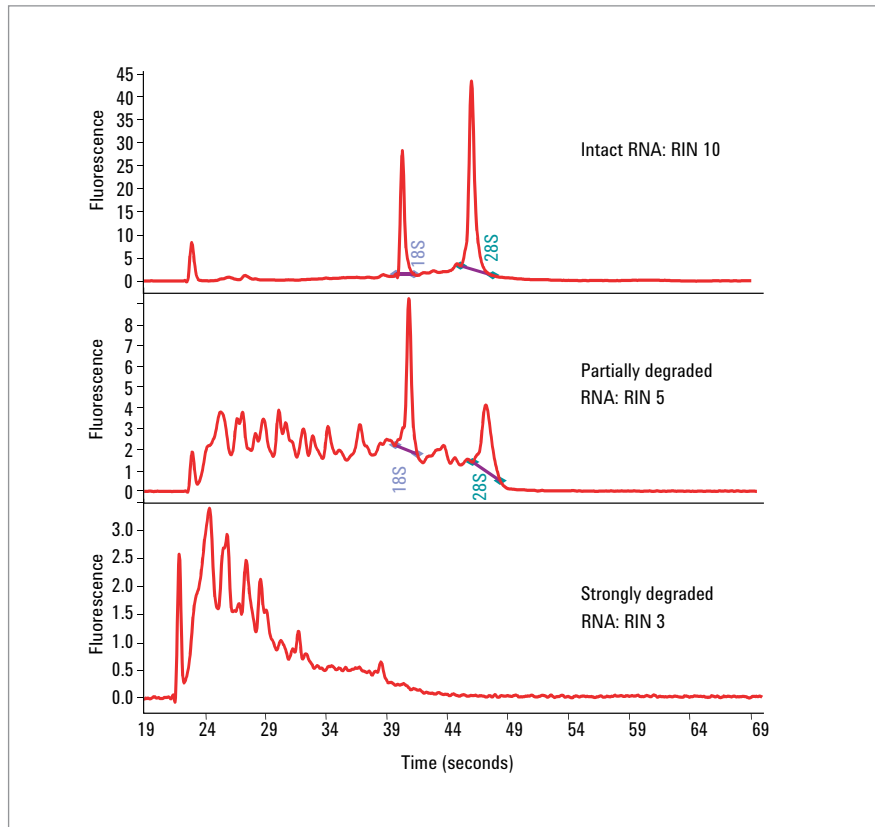


Quality control of antibodies under reducing and non-reducing conditions

# ENDLESS POSSIBILITIES

## Sample QC in gene expression

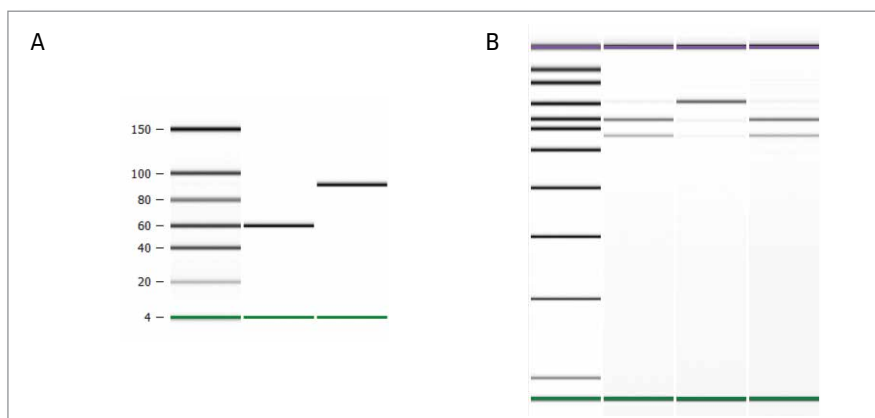
- QC prior to gene expression studies utilizing microarrays and qPCR
- Transcriptome profiling with RNA sequencing
- QC of small RNA fractions for miRNA research or Small RNA sequencing
- QC of plant RNA or bacterial RNA



RNA integrity assessment of total RNA

## Genome Editing Applications

- Quality control of guide RNA (gRNA)
- Cleavage/mutation detection
- Vector assembly analysis



A. Sizing and quantitation of gRNA B. Targeted cleavage or mutation assays to test gRNA function

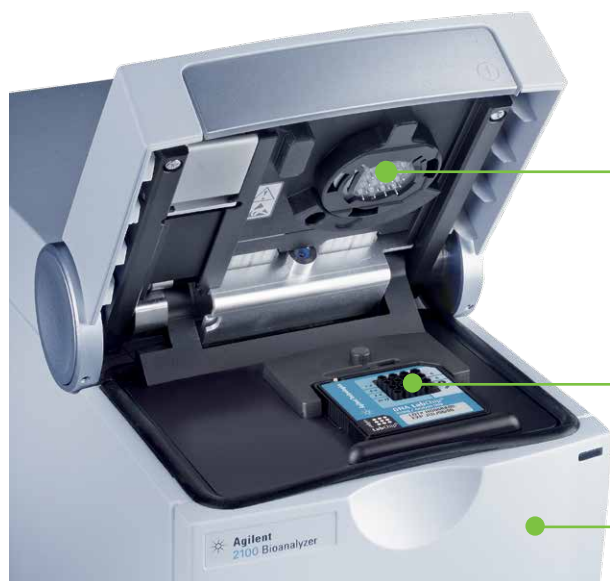
## A VERSATILE INSTRUMENT

### For excellent data quality

Agilent provides a complete solution with the 2100 Bioanalyzer system with exchangeable cartridge for electrophoresis applications.

### The system includes:

1. Chip priming station
2. Chip vortexer
3. Agilent 2100 Expert software for instrument control and data analysis (optional expansion for full compliance support in regulated environments)
4. Service and support on system and applications



### Maximum flexibility

Exchangeable cartridge for on-chip electrophoresis. An easy switch between methods.

### Excellent sensitivity

Minimal sample consumption (only 1-4  $\mu\text{L}$  required) due to miniaturization and highly sensitive laser induced fluorescence detection.

### Most robust

Highly stable instrument that is not dependent on fragile components or multiple moving parts.

### Instrument specifications

Type	Specification
Weight	10 kg (22 lbs)
Dimensions (height x width x depth)	290 x 162 x 412 mm (11.4 x 6.4 x 16.2 inches)
Line voltage	100 – 240 VAC
Line frequency	50 – 60 Hz
Power consumption	60 VA
Ambient operating temperature	15 – 27 °C (59 – 80 °F)
Safety standards IEC, EN, CSA, UL	Installation Category II, Pollution Degree 2, Laser Class 1

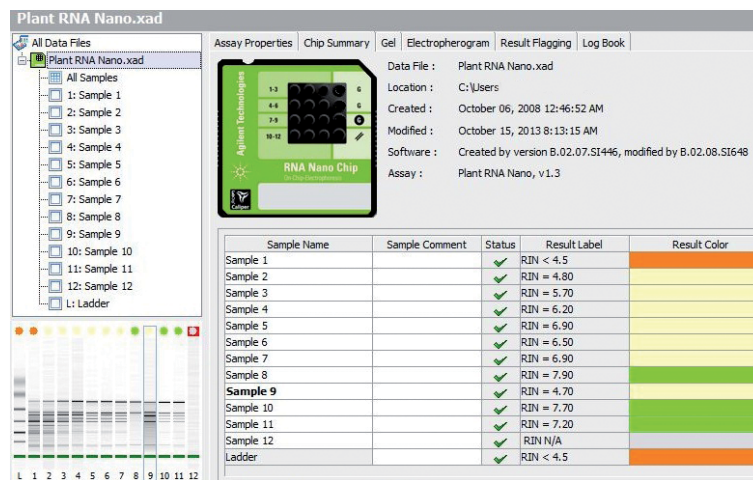
## GET THE MOST OUT OF YOUR DIGITAL DATA

### Powerful software for the analysis of RNA, DNA, and proteins

The 2100 Expert software offers powerful data evaluation tools for all available assays, allowing you to get the most out of your digital data.

#### Unique features

- RNA Integrity Number (RIN) – the established parameter for unbiased total RNA quality control
- Color-coded result flagging tool – an easy-to-use rule-defined system for automated QC and data evaluation
- Security Pack expansion – supports all 21 CFR Part 11 requirements, including the handling of electronic records, data security, data integrity and audit traceability.



## INSTRUMENT AND APPLICATION SUPPORT

### Hardware and software support services

All 2100 Bioanalyzer system components carry a one-year factory warranty. Coverage may be extended with:

- One- to four-year warranty extension with the CrossLab Silver contract. This premium service provides instrument express exchange or return for repair, free-of-charge software updates, and an annual system preventative maintenance service.
- One- to four-year warranty extension for solely the 2100 Bioanalyzer instrument.

### Compliance services

Agilent offers Installation Qualification and Operational Qualification services exclusively provided by certified Agilent service personnel. The complete suite of compliance services comprises qualifying instrument and software for variable configurations.

### Application support services

Two on-site application-related support services are available:

- Start-up services to familiarize the new user with the hardware, software and an application of choice.
- On-site consulting services, including troubleshooting for application-related problems and user training for a kit of your choice. Running customer samples is included in this training.

Learn more

**[www.agilent.com/genomics/bioanalyzer](http://www.agilent.com/genomics/bioanalyzer)**

Buy online

**[www.agilent.com/genomics](http://www.agilent.com/genomics)**

Find an Agilent customer center

**[www.agilent.com/genomics/contactus](http://www.agilent.com/genomics/contactus)**

[www.agilent.com/genomics/bioanalyzer](http://www.agilent.com/genomics/bioanalyzer)

For Research Use Only.  
Not for use in diagnostic procedures.

This information is subject to change without notice.

© Agilent Technologies, Inc. 2008 - 2017  
Published in USA, March 1, 2017  
5991-3323EN



**Agilent Technologies**