



Agilent DNA Kits for the 2100 Bioanalyzer System

A smart solution for nucleic acid analysis

The Agilent 2100 Bioanalyzer DNA assays allow analysis of high resolution multiplex PCR reactions, measuring precise size and concentration of each fragment. High sensitivity and a large linear dynamic range of the analysis allows detection of small impurities in PCR amplifications.

Advantages

- **High sensitivity** – laser (LIF) detection of DNA fragments down to 0.1 ng or 5 pg, dependent on assay chosen
- **Broad linear dynamic range** – detect very weak bands next to very strong bands (more than 2 orders of magnitude)
- **Excellent sizing and quantification** – unmatched accuracy and reproducibility with pre-packaged reagents, standardized assays and automated data analysis
- **Minimal sample consumption** – only 1 µL of material required per analysis
- **Faster results** – complete automated analysis of 11 to 12 samples in about 30 minutes
- **Quick and easy sample comparison** – automated sample alignment, one-click overlay, scaling and zooming features
- **Conveniently archived and stored digital data** – easily share data with others and export it for publications or presentations
- **Alternative data display options** – results shown in gel-like image, electropherogram, and tabular formats
- **Easy-to-use** – simply load the chip, press "start" and the 2100 Bioanalyzer system does the rest
- **Clean** – minimal exposure to hazardous materials, such as ethidium bromide



Analytical specifications	DNA 1000 Assay	DNA 7500 Assay	DNA 12000 Assay	High Sensitivity DNA Assay
Sizing range	25–1000 bp	100–7500 bp	100–12000 bp	50–7000 bp
Sizing resolution	25–100 bp: 5 bp 100–500 bp: 5% 500–1000 bp: 10%	100–1000 bp: 5% 1000–7500 bp: 15%	100–1000 bp: 5% 1000–12000 bp: 15%	50–600 bp: ± 10% 600–7000 bp: ± 20%
Sizing accuracy*	± 10%	± 10%	± 15%	± 10%
Sizing reproducibility*	5% CV	5% CV	5% CV	5% CV
Quantification accuracy*	20%	20%	25%	20%
Quantification reproducibility*	25–500 bp: 15% CV 500–1000 bp: 5% CV	100–1000 bp: 10% CV 1000–7500 bp: 5% CV	100–1000 bp: 15% CV 1000–12000 bp: 10% CV	50–2000 bp: 15% CV 2000–7000 bp: 10% CV
Quantitative range*	0.5–50 ng/µL	0.5–50 ng/µL	0.5–50 ng/µL	5–500 pg/µL
Max. salt concentration in sample	250 mM KCl or NaCl, 15 mM MgCl ₂	250 mM KCl or NaCl, 15 mM MgCl ₂	250 mM KCl or NaCl, 15 mM MgCl ₂	10 mM Tris and 1 mM EDTA
Physical specifications				
Analysis run time	35 minutes	30 minutes	30 minutes	45 minutes
Samples per chip	12	12	12	11
Sample volume	1 µL	1 µL	1 µL	1 µL
Kit stability**	4 months	4 months	4 months	4 months

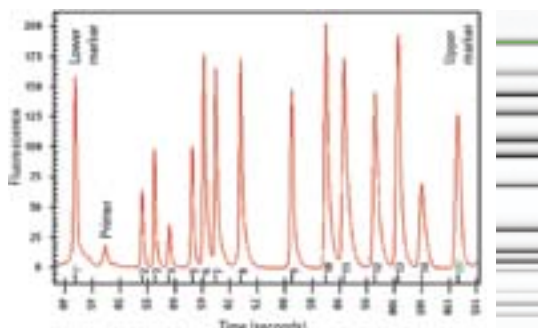
*DNA ladder as sample
**Minimum guarantee



DNA 1000 Assay

Example: High resolution PCR fragment analysis

- Analysis of small PCR products
- Multiplex PCR analysis
- Analysis of RT-PCR reactions
- Restriction digests of small plasmids
- Analysis of DNA smears



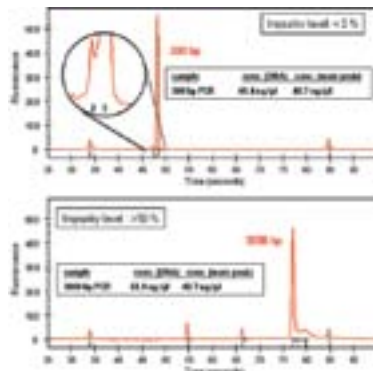
For comparative PCR it is important to get sufficient resolution over the entire size range of PCR products. When analyzing a mixture of different PCR products, the DNA 1000 kit outperforms traditional slab gels. In addition, accurate quantitative data is obtained, allowing for discrimination of minute differences of amplified products. Example: High resolution multiplex PCR of 13 targets (99–955 bp).

Data kindly provided by QIAGEN GmbH, Hilden, Germany.

DNA 7500 Assay

Example: Impurity analysis of PCR products

- PCR product impurity analysis
- Optimization of PCR reactions
- Restriction digests of medium sized plasmids

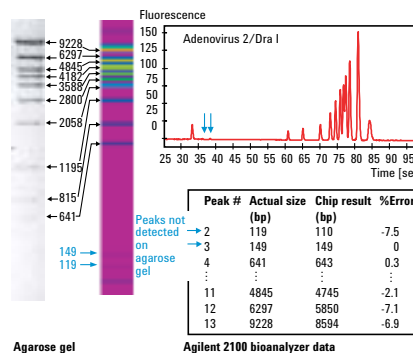


With the large linear dynamic range and sensitivity of LIF detection, it is possible to detect low levels of impurities in PCR products. The precision of the PCR product quantification allows for optimization of reactions, maximizing yield and minimizing cycle numbers.

DNA 12000 Assay

Example: Analysis of restriction digests

- Analysis of digested products with a wide range of fragment sizes

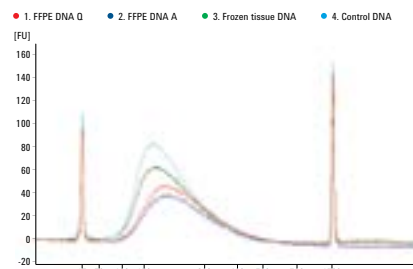


With traditional gel electrophoresis, it is difficult to detect very small and very large fragments from the same sample. The Agilent 2100 Bioanalyzer system avoids limitations by offering a large dynamic range, allowing detection and visualization of weak and robust bands within a run.

High Sensitivity DNA Assay

Example: High sensitivity analysis

- Analysis of precious samples of limited abundance
- Analysis of targeted enriched libraries for next generation sequencing



The Agilent High Sensitivity DNA Kit allows analysis of precious DNA samples of limited abundance, such as DNA extracts from FFPE, limited tissue, and cell-free samples. Additionally, it is well-suited for QC of low input or targeted enriched libraries for next generation sequencing.

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Published in USA, February 1, 2017
5991-7888EN



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