

Agilent Cell-free DNA ScreenTape Assay

Accelerate cell-free DNA (cfDNA) quality control with the Agilent TapeStation systems



Confidence in cfDNA quantity and quality

The Agilent TapeStation systems offer automated sample processing for quick and reliable sample quality control of nucleic acids.

The Cell-free DNA ScreenTape assay has been developed for the separation and analysis of cfDNA samples from 50 bp to 800 bp including detection of high molecular weight (HMW) DNA contaminations. cfDNA sample quality control has never been that easy – simply load the TapeStation system with the Cell-free DNA ScreenTape device, loading tips, and samples in tube strips or 96-well plates and get results in less than 2 minutes per sample.

Ordering information

Agilent TapeStation systems*	Part no.
Agilent 4200 TapeStation system	G2991BA
Agilent 4150 TapeStation system	G2992AA
Agilent Cell-free DNA ScreenTape Assay	Part no.
Agilent Cell-free DNA ScreenTape	5067-5630
Agilent Cell-free DNA Reagents	5067-5631
Agilent Cell-free DNA Ladder	5067-5632
Agilent Cell-free DNA Buffer	5067-5633

* The Agilent Cell-free DNA ScreenTape assay is not compatible with the Agilent 2200 TapeStation system

Key features

- **Automated qualification:** Rely on the digital assessment of %cfDNA to qualify your sample
- **Impurity detection:** Detect HMW DNA contamination
- **Ease of use:** Simplify your sample quality control with ready-to-use ScreenTape consumables and reagents
- **High sensitivity:** Qualify your precious cfDNA sample down to a concentration of 20 pg/μL per fragment
- **Excellent accuracy and precision:** Reliably size and quantify cfDNA samples from 50 to 800 bp
- **Scalable throughput:** Analyze any number of samples at constant price per sample
- **Fast results:** Obtain results in as little as two minutes per sample independent of total sample number
- **Minimal sample consumption:** Use no more than 2 μL of your precious samples per run

Analytical specifications	
Sizing range	50 – 800 bp
Sensitivity ¹	20 pg/μL
Sizing precision ²	10 % CV
Sizing accuracy ²	±15 % ³
Quantitative precision	15 % CV ²
Quantitative accuracy	±20 % ²
Quantitative range	100 – 4000 pg/μL
%cfDNA functional range	100 – 5000 pg/μL
Maximum buffer concentration in sample	25 mM NaCl, 25 mM KCl, 3 mM EDTA 0.1 % NaN ₃ , 5 mM phosphate buffer 10% ethanol, 10% 2-propanol
Physical specifications	
Analysis time	16 samples < 25 min 96 samples < 150 min
Samples per consumable	16
Sample volume required	2 μL
Kit stability	6 months
Kit size	112 samples

¹ Signal/noise ratio >3 (single peak)

² Determined using the ladder as sample

³ Sizing accuracy for analysis with electronic ladder: ±20 %

Complete solution for cfDNA analysis

Cell-free DNA ScreenTape applications

Quality control of cfDNA

Determining the quantity and quality of the cfDNA starting material is crucial for the success of downstream experiments, such as next-generation sequencing (NGS), ddPCR or microarray. Quality of cfDNA can be easily analyzed with the Cell-free DNA ScreenTape assay, which provides quantification and sizing information up to 800 bp as well as detection of HMW DNA contamination.

The value %cfDNA is presented below the gel image, giving an objective measure of cfDNA quality based on a preset region from 50 to 700 bp. In addition, regions can be defined with the TapeStation Analysis software to determine average size and concentration within each of those regions.

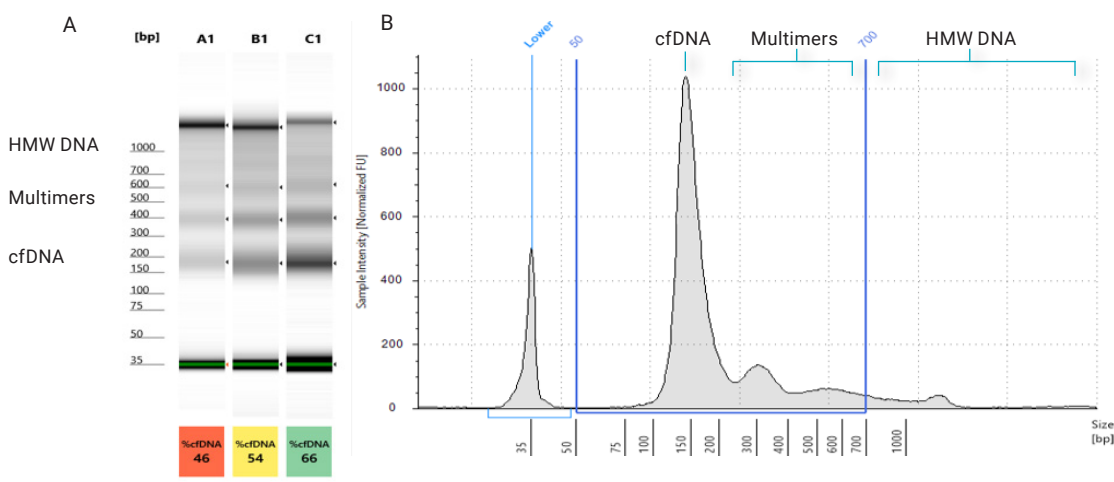


Figure A, the gel image shows three cfDNA samples with different HMW DNA contamination levels and the respective %cfDNA. The electropherogram (B) shows one example cfDNA profile.

www.agilent.com/genomics/cfdna-screentape

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