Agilent D5000 ScreenTape and High Sensitivity D5000 ScreenTape Assays

Accelerate DNA analysis with the Agilent 4200 TapeStation system

Data Sheet

Fast and easy DNA quality control

The Agilent 4200 TapeStation system offers automated sample processing of 1 to 96 samples for quick and reliable RNA and DNA sample quality control.

The D5000 ScreenTape assay allows for the separation and analysis of DNA fragments from 100 bp to 5,000 bp, ideal for larger sized NGS libraries. Depending on the sample concentration, it is possible to choose between the D5000 ScreenTape and the High Sensitivity D5000 ScreenTape application.

Sample quality control analysis has never been so easy – simply load the 4200 TapeStation system with the appropriate D5000 ScreenTape device, loading tips, and samples in tube strips or 96-well plates, and you will be reviewing results in less than 2 minutes per sample.

Key Features

Excellent accuracy and precision

Reliably analyze size and quantity of PCR fragments, fragmented DNA, and DNA libraries.

High sensitivity

Qualify your precious DNA sample down to a concentration of 5 pg/µL per fragment.

Easy to use

Simplify your sample quality control with ready-to-use ScreenTape consumables and reagents.

Scalable throughput

Analyze any number of samples at constant price per sample.

Fast results

Obtain results in as little as one minute per sample independent of total sample number.

Zero carryover

Avoid sample carry over by running each DNA sample in a separate lane of the ScreenTape device.

Minimal sample consumption

Use no more than 2 µL of your precious samples per run – even for high sensitivity analysis.

Complete solution for DNA analysis

- Agilent 4200 TapeStation system (G2991AA)
- Agilent D5000 ScreenTape Assay
  - D5000 ScreenTape (5067-5588)
  - D5000 Reagents (5067-5589)
  - D5000 Ladder (5067-5590)
- Agilent High Sensitivity D5000 ScreenTape Assay
  - High Sensitivity D5000 ScreenTape (5067-5592)
  - High Sensitivity D5000 Reagents (5067-5593)
  - High Sensitivity D5000 Ladder (5067-5594)

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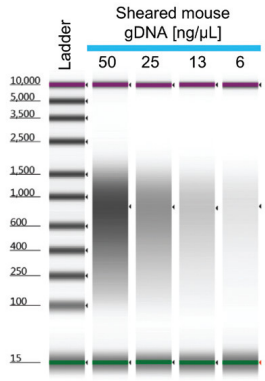
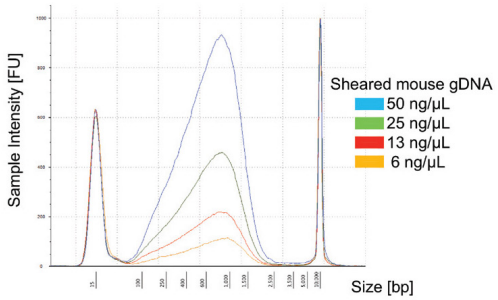
Agilent D5000 ScreenTape applications





DNA analysis during the NGS workflow

The Agilent 4200 TapeStation system and the DNA ScreenTape assays can be used at several steps of the Next generation Sequencing (NGS) workflow such as shearing of genomic DNA and library amplification to ensure DNA library and sample quality. The figure shows the analysis of sheared genomic DNA for an NGS library preparation workflow with the D5000 ScreenTape assay.

Analytical Specifications	Agilent D5000 ScreenTape Assay	Agilent High Sensitivity D5000 ScreenTape Assay
Sizing range	100 bp – 5,000 bp	100 bp – 5,000 bp
Typical resolution	400 – 5,000 bp: 15%	400 – 5,000 bp: 15%
Sensitivity [1]	0.1 ng/µL	5 pg/µL
Sizing precision [2]	5% CV	10% CV
Sizing accuracy [2]	± 10%	± 15%
Quantitative precision	0.1 – 1 ng/µL: 15% CV 1 – 50 ng/µL: 10% CV	15% CV
Quantitative accuracy [3]	± 20%	± 25%
Quantitative range	0.1 – 50 ng/µL	10 – 1,000 pg/µL
Maximum sample buffer strength	250 mM KCl 250 mM Tris-HCl 125 mM NaCl 50 mM Acetate 25 mM $MgCl_2$ 25 mM BSA 25 mM Guanidine-HCl	25 mM KCl 25 mM Tris-HCl 12.5 mM NaCl 5 mM Acetate 2.5 mM $MgCl_2$ 2.5 mM BSA 2.5 mM Guanidine-HCl

[1] Signal/noise ratio > 3 for a single peak
[2] Determined using D5000/High Sensitivity D5000 ladder as sample
[3] Measured against 2200 TapeStation system

Physical Specifications	Agilent D5000 ScreenTape Assay	Agilent High Sensitivity D5000 ScreenTape Assay
Analysis time	15 samples < 25 minutes 96 samples < 135 minutes	15 samples < 20 minutes 96 samples < 120 minutes
Samples per consumable	15	15
Sample volume required	1 µL	2 µL
Kit stability	4 months	4 months
Kit size	105 samples	105 samples

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