

Agilent Genomic DNA ScreenTape and High Sensitivity Genomic DNA ScreenTape Assays

Accelerate genomic DNA quality control with the Agilent TapeStation systems



Confidence in genomic DNA quantity and quality

The Agilent 4150 and 4200 TapeStation systems provide automated, fast, and reliable RNA and DNA electrophoresis.

The Agilent Genomic DNA ScreenTape assay has been developed for the separation and analysis of DNA samples from 200 bp to greater than 60,000 bp. It provides accurate quantification data and allows a quality assessment of genomic DNA (gDNA) starting material, which is ideal for next-generation sequencing (NGS) and array comparative genomic hybridization (aCGH) workflows.

Depending on the sensitivity requirements, it is possible to choose between the Genomic DNA ScreenTape and the High Sensitivity Genomic DNA ScreenTape application.

The DIN algorithm is included in the TapeStation analysis software and provides a numerical assessment of the DNA quality by assigning each sample a score from 1 to 10. A high DIN indicates highly intact gDNA, and a low DIN a strongly degraded gDNA sample.

Next-generation sequencing (NGS)

Three different mouse gDNA samples with different DNA integrity were analyzed with the Genomic DNA ScreenTape assay. Regions can be defined with the software to determine average size and concentration within each of those regions. Determining the quantity and quality of the gDNA starting material is crucial for the success of NGS experiments. The TapeStation software displays the results as an electropherogram and gel image. The DIN value is automatically determined, and directly displayed under the individual lane of the gel image.

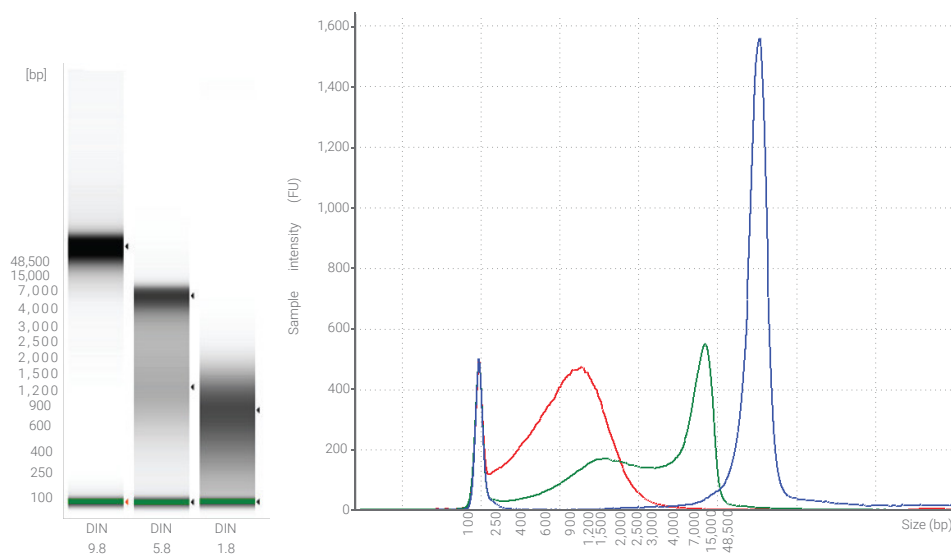


Figure 1. Mouse gDNA samples with different DNA integrity at 50 ng/μL were analyzed using the Agilent 4200 TapeStation system and the Agilent Genomic DNA ScreenTape assay. The determined DIN values are shown under the gel image. The overlay shows the corresponding electropherograms. (Agilent publication number 5991-6629EN)

Key features

Confidence

The TapeStation systems provide an automated, highly reproducible digital assessment of gDNA concentration, size, and integrity.

DNA integrity number (DIN)

The Genomic DNA ScreenTape assays offer a numeric measurement, the DIN – for the assessment of input gDNA integrity from multiple sources, including gDNA isolated from FFPE tissue.

Easy to use

Simplify your genomic workflow with ready-to-use Genomic DNA ScreenTape consumables and reagents.

Fast results

Obtain results in less than two minutes per sample, when analyzing a single sample or 96 samples.

User-independent

Perform unambiguous gDNA quality control with prepackaged reagents and the automated loading, electrophoresis, imaging, and analysis of samples.

High Sensitivity

Visualize your precious gDNA sample down to 20 pg/μL with the High Sensitivity Genomic DNA ScreenTape assay.

Analytical specifications

	Genomic DNA ScreenTape	High Sensitivity Genomic DNA ScreenTape
Sizing range	200 to > 60,000 bp	200 to > 60,000 bp
Sensitivity ¹	0.5 ng/μL	20 pg/μL
Sizing precision ²	200 to 15,000 bp: 15% CV	200 to 15,000 bp: 20% CV
Sizing accuracy ²	200 to 15,000 bp: ±15%	200 to 15,000 bp: ±20% ³
Quantitative precision	15% CV	20% CV
Quantitative accuracy	±20%	±25%
Quantitative range	10 to 100 ng/μL	0.5 to 10 ng/μL
DIN functional range ⁴	5 to 300 ng/μL	0.25 to 10 ng/μL
Maximum buffer concentration in sample	10 mM MgCl ₂ 50 mM NaCl 10 mM NaOAc 10% ethanol 10% 2-propanol 1 μg/μL glycogen	200 ng/μL glycogen 3% 2-propanol 3% ethanol 0.5 mM NaOAc 2.5 mM NaCl 2.5 mM guanidine thiocyanate or 10 mM Tris 0.1 mM EDTA

¹ Signal/noise > 3 (single peak)

² Determined using ladder as sample

³ Sizing accuracy applicable for analysis with run ladder

⁴ DIN - DNA integrity number

Physical specification

	Genomic DNA ScreenTape	High Sensitivity Genomic DNA ScreenTape
Analysis time	15 samples < 25 min 96 samples < 140 min	16 samples < 30 min 96 samples < 180 min
Samples per consumable	15	16
Sample volume required	1 μL	2 μL
Kit stability	6 months	6 months
Kit size	105 samples	112 samples

Ordering information

	Part Number
Agilent 4150 TapeStation system	
Includes the 4150 TapeStation instrument, TapeStation software, vortexer, accessories, plastic consumables, user information, installation, and familiarization services. <i>Does not include ScreenTape consumables and reagents.</i>	G2992AA
Agilent 4200 TapeStation system	
Includes the 4200 TapeStation instrument, laptop PC, TapeStation software, vortexer, accessories, plastic consumables, user information, installation, and familiarization services. <i>Does not include ScreenTape consumables and reagents.</i>	G2991BA
Agilent Genomic DNA ScreenTape	
Includes 7 ScreenTape devices. (Order with 5067-5366)	5067-5365
Agilent Genomic DNA reagents	
Includes ladder and sample buffer. (Order with 5067-5365)	5067-5366
Agilent High Sensitivity Genomic DNA ScreenTape	
Includes 7 ScreenTape devices. (Order with 5067-5635)	5067-5634
Agilent High Sensitivity Genomic DNA reagents	
Includes ladder and sample buffer. (Order with 5067-5634)	5067-5635

www.agilent.com/genomics/dna-screentape

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

PR7003-104

This information is subject to change without notice.

© Agilent Technologies, Inc. 2020, 2023, 2025
Published in the USA, September 05, 2025
5991-2115EN

