Agilent Genomic DNA ScreenTape System Quick Guide

The Agilent 2200 TapeStation system is an automated platform for simpler, faster and more reliable electrophoresis.

It is made up of three elements:

- 2200 TapeStation system (G2964AA) or 2200 TapeStation Nucleic Acid system (G2965AA)
- Genomic DNA ScreenTape (5067-5365) with Genomic DNA Reagents (Ladder and Sample Buffer) (5067-5366)
- Agilent Software packages (2200 TapeStation Controller Software, and TapeStation Analysis Software)

Kit

The Genomic DNA ScreenTape system is designed for analyzing genomic DNA samples in the size range from 200 bp to >60000 bp.

Specifications

Analytical Specification	Genomic DNA ScreenTape assay and reagents
Sizing Range	200 bp to > 60000 bp
Sensitivity	0.5 ng/µL
Sizing Precision[1]	200 – 15000 bp: 15 % CV
Sizing Accuracy[1]	200 – 15000 bp: ±15 %
Quantitative Precision[2]	15 % CV
Quantitative Accuracy[2]	±20 %
Linear Concentration Range	10 – 100 ng/µL
DIN functional range	5 – 300 ng/µL
Physical Specification	
Analysis Time	16 samples: < 25 min, 96 samples: < 150 min
Samples per consumable	1 ladder + 15 samples
Sample Volume Required	1 µL
Shelf Life	4 months
Box/Kit size	112 samples/box

1 Determined using the Genomic DNA Ladder as sample
2 Average result from various genomic DNA sample types

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Storage Conditions

- Reagent vials: 2 – 8 °C (36 – 46 °F)
- The ScreenTape device: 2 – 8 °C (36 – 46 °F) (if you run less than 16 lanes, store used ScreenTape device upright at 2 – 8 °C (36 – 46 °F) for a maximum of 2 weeks.)
- *Never* freeze the ScreenTape device - any ScreenTape device which is accidentally frozen should be discarded.

Kit Components

Part Number	Name	Color	Amount
5067-5365	Genomic DNA ScreenTape		7 ScreenTape devices
5067-5366	Genomic DNA Reagents		2 vials
	• Genomic DNA Ladder		25 µL
	• Genomic DNA Sample Buffer		1350 µL

Additional Consumables Required for the 2200 TapeStation Instrument

- Loading tips (5067-5152 or 5067-5153)
- Optical Tube 8x Strip (401428) and Optical Cap 8x Strip (401425) or 96-well Sample Plates (5067-5150) and 96-well Plate Foil Seal (5067-5154).
- Vortex mixer (See note below)

Additional Material Required (Not Supplied)

- Volumetric pipette
- Micro-centrifuge

NOTE 2200 TapeStation instruments are supplied with an optional IKA MS3 vortexer which includes a 96-well plate adaptor suitable for both 96-well PCR plates and 8-way strips.

Safety Information

WARNING

Toxic agents

The handling of solvents, samples and reagents can hold health and safety risks.

- ➔ When using/handling the ScreenTape device and working with these substances observe appropriate safety procedures (for example by wearing goggles, safety gloves and protective clothing).
- ➔ Always follow good laboratory practices and adhere to the guidelines established in your laboratory.
- ➔ Refer to product material safety datasheets for further information.
- ➔ The volume of substances should be reduced to the minimum required for the analysis.

CAUTION

Damage to the 2200 TapeStation instrument

- ➔ Use only the recommended consumables and reagents with the 2200 TapeStation system.

General Information on Working with Genomic DNA

NOTE

- For best results ensure that all reagents are allowed to equilibrate to room temperature for 30 min prior to use.
- When pipetting Sample Buffer, ensure that excess buffer droplets are removed from the tip before transfer to the sample tubes. Care must be taken due to the viscosity of Sample Buffer.
- When pipetting small volumes ensure that no sample remains within the tip.
- When adding sample buffer to sample or ladder, please ensure that they are mixed correctly. To achieve this, gently mix several times with additional pipetting, then cap the tubes, vortex mix using IKA vortexer and adaptor at 2000 rpm for 1 min.
- Briefly centrifuge to collect the contents at the base of the tubes.
- *Improper mixing can lead to quantification errors.*

Essential Measurement Practices

Environmental conditions	• Optimal operating temperature: 20 °C (68 F) • Ambient operating temperature: 15 – 30 °C (59 – 86 F)
Steps before use on the TapeStation instrument	• Equilibrate each vial to room temperature for 30 min. • Gently vortex mix each vial and briefly spin. • 'Flick' ScreenTape device to eliminate bubbles in the separation channel, which could interfere with sample loading. • Do not shake or over mix ladder vial, this could result in degradation of the Genomic DNA ladder.
Steps during sample preparation	• Keep reagents at room temperature during sample preparation.
Storage after use on the TapeStation instrument	• Store all reagent vials and ScreenTape devices at 2 – 8 °C (36 – 46 °F) • Never store reagent vials or ScreenTape devices at room temperature or below 0 °C (32 °F). • If you run less than 16 lanes, store used ScreenTape device upright at 2 – 8 °C (36 – 46 °F) for maximum of 2 weeks.
Pipette carefully	• Always pipette reagents against the side of the sample tube. • If using a standard pipette ensure that no residual material is left on the outside of the tip.
Mix properly after each pipetting step	• Mix = Vortex the PCR tubes or 96-well plate using Agilent approved IKA vortexer and adaptor at 2000 rpm for 1 min. • Spin = Move the samples to the bottom of the tubes/wells by pulsing in a centrifuge.

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Prepare TapeStation System gDNA

Parts required	p/n	Description
	5067-5365	Genomic DNA ScreenTape

1 Launch the 2200 TapeStation Controller Software.
2 Load Genomic DNA ScreenTape device and loading tips into the 2200 TapeStation instrument.

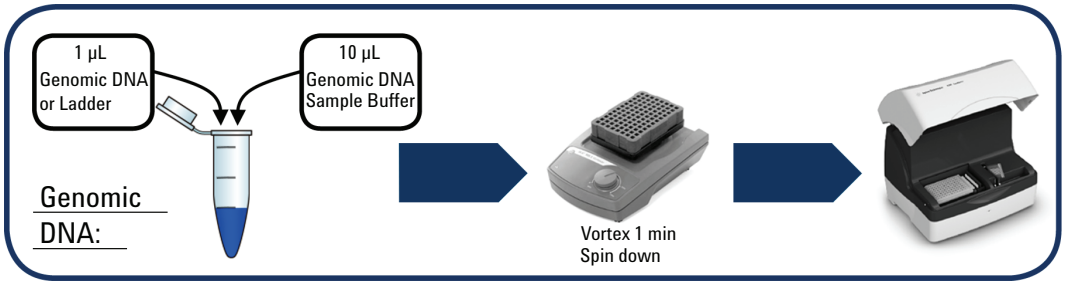
Sample Preparation Genomic DNA ScreenTape Assay

Parts required	p/n	Description
	5067-5366	Genomic DNA Reagents

1 Allow reagents to equilibrate at room temperature for 30 min.
2 Vortex mix before use.
3 Prepare ladder by mixing 10 µL Genomic DNA Sample Buffer (●) with 1 µL Genomic DNA Ladder (●)

NOTE Use a fresh ladder for each run. No electronic ladder is available for the Genomic DNA assay.

4 Prepare sample by mixing 10 µL Genomic DNA Sample Buffer (●) with 1 µL genomic DNA sample (10 – 100 ng/µL).
5 Spin down, then vortex using IKA vortexer and adaptor at 2000 rpm for 1 min.
6 Spin down to position the sample at the bottom of the tube.



Sample Analysis

1 Load samples into the 2200 TapeStation instrument.
2 Select the required samples on the 2200 TapeStation Controller Software.
3 Click **Start** and specify a filename with which to save your results.

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