Agilent gDNA ScreenTape System Quick Guide

System Components

The Agilent 2200 TapeStation system is a tape-based 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, 7 /box (5067-5365) with Genomic DNA ScreenTape Reagents (Ladder and Sample Buffer (5067-5366)
- Agilent 2200 TapeStation Software

Kit

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

Specifications

Analytical Specification	Genomic DNA ScreenTape
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 ±10 %
Quantitative Precision[2]	15 % CV
Quantitative Accuracy[2]	±20 %
Linear Concentration Range	10 – 100 ng/µL
Carry Over	N/A
Physical Specification	
Analysis Time	16 samples < 25 min, 96 samples < 150 min
Samples per consumable	16
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

Agilent Technologies

Storage Conditions

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

Kit Components

Part Number	Name	Color	Amount
5067-5365	Genomic DNA ScreenTape		7 ScreenTape
5067-5366	Genomic DNA Reagents		2 vials
	• Genomic DNA Ladder		75 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 and Optical Cap 8x Strip (401425) or 96-well Sample Plates (5067-5150) and 96-well Plate Foil Seal (5067-5154).

Additional Material Required (Not Supplied)

- Volumetric pipette
- Vortex mixer
- Micro-centrifuge

Safety Information

WARNING

Toxic agents

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

- ➔ When using/handling the ScreenTape 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.

NOTE

- 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 Buffers.
- When pipetting small volumes ensure that no sample remains within the tip.
- Please ensure samples and Sample Buffer are mixed correctly. To achieve this, gently mix several times with additional pipetting, then cap the tubes, vortex mix for 5 s, followed by briefly centrifuging on maximum speed to collect the contents at the base of the tubes. This is essential for accurate quantification of samples.
- For best results ensure that all reagents are allowed to equilibrate to room temperature for 30 minutes prior to use.

General Information on Working with DNA

NOTE

- For best results ensure that all reagents are allowed to equilibrate to room temperature 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.
- Please ensure samples and Sample Buffer are mixed throrougly. To achieve this, gently mix several times with additional pipetting, then cap the tubes, vortex mix at maximum speed for 5 s, followed by briefly centrifuging on maximum speed 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: 23 °C (73.4 F) • Ambient operating temperature: 15 – 30 °C (59 – 86 F)
Steps before use on the TapeStation	• Equilibrate each vial to room temperature for 30 min. • Gently vortex mix each vial and briefly spin. • 'Flick' ScreenTape 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 gDNA ladder.
Steps during sample preparation	• Keep reagents at room temperature during sample preparation.
Storage after use on the TapeStation	• Store all reagent vials and ScreenTape at 2 – 8 °C • Never store reagents and ScreenTape at room temperature or below 0 °C. • If you run less than 16 lanes, store used ScreenTape upright at 2 – 8 °C 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 on maximum speed for 5 s. • Spin = Move the samples to the bottom of the tubes/wells by pulsing in a centrifuge.

Prepare TapeStation

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

1 Launch the Agilent 2200 TapeStation software.
2 Load Genomic DNA ScreenTape and loading tips into the 2200 TapeStation.

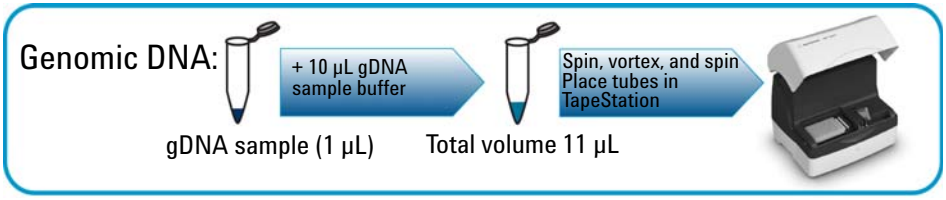
Sample Preparation (Genomic DNA Assay)

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

1 Equilibrate all reagents to room temperature for 30 min.
2 Prepare Ladder
   a Aliquot a minimum of 3 µL Genomic DNA Ladder (●) into the first tube/well.

NOTE Use a fresh ladder for each run. If using 96-well plates, always run the ladder in first selected position. No software saved ladder is available for the Genomic DNA assay.

3 Prepare Sample
   a Mix 1 µL DNA sample with 10 µL Genomic DNA Sample Buffer (●).
   b Spin down, then vortex for 5 s.
   c Spin down to position the sample at the bottom of the tube.



Sample Analysis

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

Limited Use Label License

Technical Support

For technical support, please visit www.agilent.com/genomics/contact

Further Information

Visit Agilent Technologies web site. It offers useful information, support and current developments about the products and technology: www.agilent.com/genomics/tapestatio

G2964-90040

Part Number: G2964-90040
Edition 11/2012
Printed in Germany

Agilent Technologies
Hewlett-Packard-Straße 8
76337 Waldbronn, Germany