Genomic DNA ScreenTape Assay for TapeStation Systems
Quick Guide

The Agilent 4150 (G2992AA) and 4200 (G2991AA and G2991BA) TapeStation systems are automated platforms for scalable, flexible, fast, and reliable electrophoresis of nucleic acids.
This Quick Guide is intended for use with the Agilent 4150 and 4200 TapeStation systems only. A Quick Guide specific for use with the Agilent 2200 TapeStation system is available online.
The Genomic DNA ScreenTape assay is designed for assessing integrity of genomic DNA samples and analyzing double-stranded DNA molecules from 200 to > 60000 basepairs.

Specifications

Analytical specifications	**Genomic DNA ScreenTape assay**
Sizing range	200 to >60000 bp
Sensitivity[1]	0.5 ng/µL
Sizing precision[2]	200 – 15000 bp: 15 % CV
Sizing accuracy[2]	200 – 15000 bp: ±15 %
Quantitative precision	15 % CV
Quantitative accuracy	±20 %
Quantitative range	10 – 100 ng/µL
DIN functional range[3]	5 – 300 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
Physical specifications	
Analysis time	15 samples: <25 min, 96 samples: <140 min
Samples per consumable	15
Sample volume required	1 µL
Kit stability	4 months
Kit size	105 samples

1 Signal-to-noise >3 (single peak)
2 Determined using the Genomic DNA Ladder as sample
3 DIN - DNA Integrity Number

Storage Conditions

- Reagent vials and ScreenTape devices: 2 – 8 °C (36 – 46 °F).
- Store partially used ScreenTape devices upright at 2 – 8 °C (36 – 46 °F) for a maximum of 2 weeks.
- Never freeze ScreenTape devices. Discard any accidentally frozen ScreenTape devices.

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

Limited Use Label License

Some products within this assay contain SYBR™ Green I, which is licensed from Life Technologies Corporation for use in research and development only. SYBR™ is a registered trademark of Life Technologies Corporation.

For Research Use Only

Not for use in Diagnostic Procedures.

Additional Material Required for Analysis with the TapeStation Systems

- Loading tips (5067-5598, 1 pk or 5067-5599, 10 pk)
- Optical Tube 8x Strip (401428) and Optical Tube Cap 8x Strip (401425)
- Vortex mixer IKA MS3 with 96-well sample plate adapter
- 96-well sample plates (5042-8502) and 96-well Plate Foil Seal (5067-5154) (4200 TapeStation systems only)

Additional Equipment Required (Not Supplied)

- Volumetric micropipettes for handling volumes from 1 to 15 µL
- Centrifuges for tube strips and 96-well sample plates

WARNING

Toxic agents

- ✓ **Refer to product material safety datasheets for further information.**
- ✓ **When working with the ScreenTape assay follow the appropriate safety procedures such as wearing safety goggles, laboratory gloves and protective clothing.**

CAUTION

Damage to the TapeStation systems

- ✓ **Only use the recommended consumables and reagents with the TapeStation systems.**

Essential Measurement Practices

Read about good measurement practices in the Agilent Information Center and/or in the System Manual.

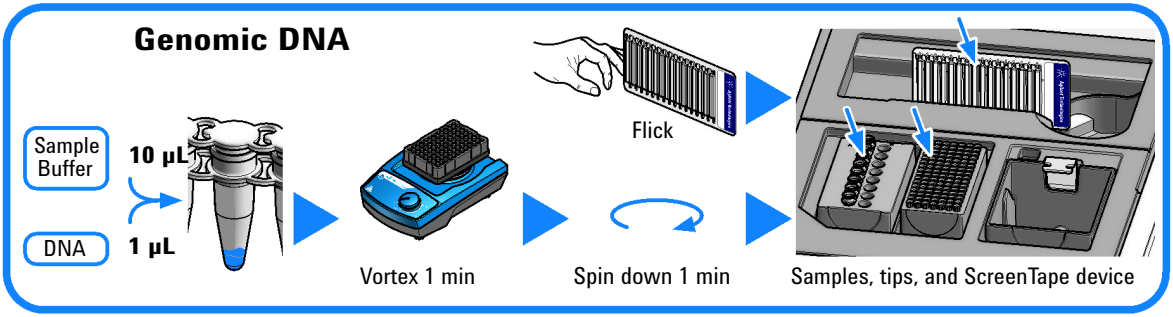
Environmental conditions	• Ambient operating temperature: 15 – 30 °C (59 – 86 °F) • Keep reagents during sample preparation at room temperature
Steps before sample preparation	• Allow Sample Buffer to equilibrate at room temperature for 30 min prior to use • Vortex each vial and briefly spin down • Flick ScreenTape device to eliminate bubbles in the buffer chamber
Ladder handling	• Do not shake or overmix ladder vial
Pipetting practice	• Pipette reagents carefully against the side of the 96-well sample plate or sample tube • Ensure that no sample or Sample Buffer remains within or on the outside of the tip • Care must be taken due to viscosity of the Sample Buffer
Mixing and centrifugation recommendations	• Apply foil seal to 96-well sample plate or cap the tube strips prior to mixing and centrifugation • Centrifuge to collect liquid at the base; then vortex using the IKA MS3 vortexer and adaptor at 2000 rpm for 1 min • Briefly centrifuge and visually confirm that all liquid is collected at the bottom of the 96-well sample plate or tube strips and any air bubble is removed • Run samples immediately after preparation

Ladder Considerations

- Ladder is exclusively loaded from location A1 on the tube strip holder.
- Always use a complete tube strip when running ladder or samples from the tube strip holder.
- The analysis of one ladder per ScreenTape device is required.

Genomic DNA ScreenTape Assay Operating Procedure

1 Allow Genomic DNA Reagents to equilibrate at room temperature for 30 minutes.
2 Launch the Agilent TapeStation Controller software.
3 Flick the Genomic DNA ScreenTape device and insert it into the ScreenTape nest of the TapeStation instrument.
4 Select required sample positions in the TapeStation Controller software.
5 The required consumables (tips, further ScreenTape devices) are displayed in the TapeStation Controller software.
6 Vortex reagents and samples. Spin down before use.
7 Prepare ladder:
   - For 1 or 2 ScreenTape devices: pipette 10 µL Genomic DNA Sample Buffer (🟢) and 1 µL Genomic DNA Ladder (🟡) at position A1 in a tube strip.
   - For more than 2 ScreenTape devices[1]: pipette 20 µL Genomic DNA Sample Buffer (🟢) and 2 µL Genomic DNA Ladder (🟡) at position A1 in a tube strip.
8 For each sample, pipette 10 µL Genomic DNA Sample Buffer (🟢) and 1 µL DNA sample in a tube strip or 96-well sample plate[1].
9 Apply caps to tube strips and/or foil seals to 96-well sample plates.
10 Mix liquids using the IKA MS3 vortexer at 2000 rpm for 1 min.
11 Spin down samples and ladder for 1 min.



Sample Analysis

1 Load samples into the TapeStation instrument. Place ladder in position A1 on tube strip holder.
2 Carefully remove caps of tube strips. Visually confirm that liquid is positioned at the bottom.
3 Click **Start**.
4 The TapeStation Analysis software opens automatically after the run and displays results.

Technical Support and Further Information

For technical support, please visit **www.agilent.com/chem/contactus**. Visit Agilent Technologies' web site. It offers useful information, support and current developments about the products and technology: **www.agilent.com/genomics/tapestation**.

[1] Agilent 4200 TapeStation system only

www.agilent.com

Printed in Germany, Edition: 01/2021
Part No: G2991-90041 Rev. B
Document No: SD-UF0000092 Rev. B

Agilent