

DNA 5K Assay Quick Guide

LabChip® GX Touch/GXII Touch

Chip Preparation

1. Allow the chip and reagents to equilibrate to room temperature for about 20 minutes before use. **The Dye Concentrate** must be completely thawed and vortexed before use. One vial of DNA Gel Matrix is good for 4 Low-throughput chip preparations (for up to 48 samples) or 2 High-throughput chip preparations (for up to 384 samples).
2. Prepare Gel-Dye by adding 13 μL DNA Dye Concentrate to 1 vial of DNA Gel Matrix. Vortex and transfer mixture into two spin filters (approximately 550 μL per spin filter). Centrifuge at 9200 rcf for 7.5 minutes at room temperature. Ensure that all of the gel has passed through the filter and then discard the filter. (Note: Gel-Dye can be stored for up to 3 weeks in the dark at 4°C.)
3. Rinse and aspirate each active well (1, 3, 4, 7, 8 and 10) twice with molecular biology grade water.
4. Using a Reverse Pipetting Technique add gel-dye to chip well 3, 7, 8 and 10 as shown in Figure 1 (Low-throughput) or Figure 2 (High-throughput).
5. Add DNA Marker to chip well 4 as shown in Figure 1 (Low-throughput) or Figure 2 (High-throughput). For the High-throughput chip preparation add 50 μL DNA Marker for 96-well plates and 120 μL DNA Marker for 384-well plates or multiple 96-well plate analysis.
6. Clean both sides of the chip window with the supplied clean room cloth dampened with 70% isopropanol. (Note: Ensure chip well 1 is empty before placing the chip on the LabChip GX Touch/GXII Touch.)

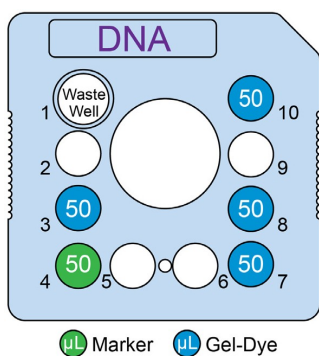


Figure 1. Low-throughput
(Up to 48 samples)

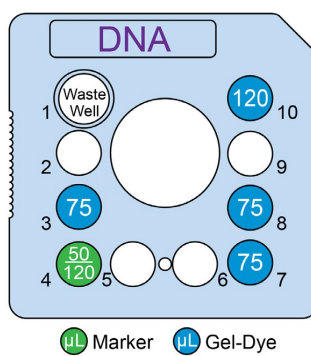
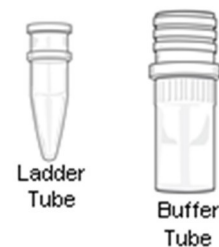


Figure 2. High-throughput
(Up to 384 samples)

DNA Sample, Ladder and Buffer Preparation

1. In the provided 0.2 mL Ladder Tube, add 12 μL DNA Ladder to 108 μL of your 1X DNA sample buffer.
2. Recommended sample volumes are 25 μL for a 384-well plate or 40 μL for a 96-well plate.
3. Add 750 μL of your 1X DNA sample buffer to the provided Buffer Tube.

Note: DNA sample buffer solution is the user's DNA buffer such as PCR buffer, etc.




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Chip Cleaning and Storage

After use, the chip must be cleaned and stored in the chip container. The cleaning procedure can be conducted the following day, when running overnight.

1. Remove reagents from each well using a vacuum.
2. Rinse and thoroughly aspirate each active well (1, 3, 4, 7, 8 and 10) twice with molecular biology-grade water.
3. Add **100 µL** of Storage Buffer  to active wells.
4. Place the chip back on the LabChip GX Touch/GXII Touch. Ensure a Buffer Tube with **750 µL** sample buffer or molecular biology-grade water is in the buffer slot and click the **Wash** button.
5. Remove the chip from the LabChip GX Touch/GXII Touch and place in container.
6. Make sure to cover all wells with Parafilm® and store at 4°C.

Assay Specifications

Sizing Range	100-5000bp
Sizing Resolution ^a	± 10% from 150-500 bp ± 15% from 100-150 bp, 500-1500 bp ± 20% from 1500-5000 bp
Sizing Accuracy	± 10%
Sizing Precision	5% CV
Linear Concentration Range	0.25 ng/µL - 50 ng/µL per fragment
Sensitivity	0.25 ng/µL
Maximum Total DNA Concentration	80 ng/µL total, 50 ng/µL per fragment
Quantitation Accuracy	± 30% or ± 1 ng/µL, whichever is greater
Quantitation Precision	20% CV

- a. Resolution is defined as half height or better separation of two peaks. Actual separation performance can depend on the sample and application. Peaks that are resolved less than half height can still be accurately identified by the system software.

For complete DNA 5K Assay User Guide, go to:

<http://www.perkinelmer.com/labchipsystems>

