

Genomic DNA Assay Quick Guide

LabChip® GX Touch/GXII Touch

WARNING: Dye Solution contains DMSO. Avoid contact with skin and eyes.

Chip Preparation

1. Allow the chip and reagents to equilibrate to room temperature for at least 30 minutes before use. **The Dye Concentrate must be completely thawed and vortexed before use.** One vial of Genomic DNA Gel Matrix is good for **4 small-batch or 2 large-batch chip preparations. Up to 24 samples can be tested with a small-batch chip preparation. Up to 48 samples can be tested with a large-batch chip preparation.**
2. Prepare Gel-Dye by adding **13.75 µL** DNA Dye Concentrate to 1 vial of Genomic DNA Gel Matrix.
3. Vortex and transfer mixture into two spin filters (approximately **550 µL** per spin filter).
4. Centrifuge at **9200 rcf for 7.5 minutes at room temperature.**
5. Ensure that all 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 2-8°C.**
6. Each active well (1, 3, 4, 7, 8, and 10) should be rinsed and aspirated twice with water (Milli-Q® or equivalent).
7. Using a Reverse Pipetting Technique, add gel-dye to chip wells 3, 7, 8, and 10 as shown in **Figure 1** (small-batch) or **Figure 2** (high-batch).
8. Add Genomic DNA Marker to chip well 4 as shown in **Figure 1** (small-batch) or **Figure 2** (large batch).
9. Clean both sides of the chip window with the supplied clean room cloth dampened with 70% isopropanol. **Note: The chip can be run with multiple assays, but only one assay type should be run on the chip.**

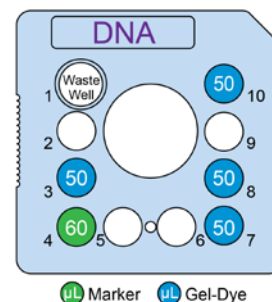


Figure 1. Reagent Placement for small-batch (up to 24 samples)

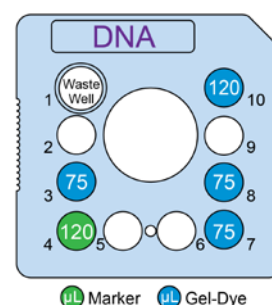


Figure 2. Reagent Placement for large-batch (up to 48 samples)

DNA Sample, Ladder, and Buffer Preparation

Sample Workflow

384-well Sample Plate

Samples should be diluted in water
Maximum samples per run = 48

A 96-well plate can be used but it requires a minimum of 20 µL and a low sip height. See Additional Items Required section for plate-type compatibility.

1X Ladder =
12 µL DNA Ladder +
108 µL water

Note: Do not vortex ladder solution. Vortexing may degrade large DNA ladder fragments

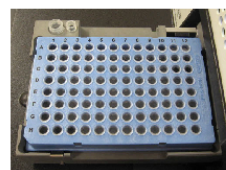
750 µL water



Ladder Tube



Buffer Tube



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Chip Cleaning and Storage

After use, the chip must be cleaned and stored in the chip container.

1. Place the chip into the plastic storage container. The sipper should be submerged in the fluid reservoir.
2. Remove reagents from each chip well using vacuum.
3. Each active well (1, 3, 7, 8, and 10) should be rinsed and aspirated twice with water (Milli-Q® or equivalent). Add **100 µL** of DNA Chip Storage Buffer (white cap○) to the active wells.
4. Place the chip back on the LabChip GX/GXII Touch. Ensure that a Buffer Tube with **750 µL** of water (Milli-Q® or equivalent) is in the buffer slot.
5. Touch the **Wash** button.
6. Remove the chip from the instrument and place it into the plastic storage container.
7. Add an additional **50 µL** of DNA Storage Buffer to well 1.
8. Cover the wells with Parafilm® to prevent evaporation and store at 2-8°C until next use. If using the chip again within 24 hours it may be left at room temperature. Storage of chip with dry wells may cause it to become clogged.

Assay Specifications¹

The Genomic DNA Assay is for use with LabChip GX Touch/GXII Touch instruments. LabChip GX Touch/GXII Touch instruments are for research use only and not for use in diagnostic procedures.

Sizing Range	50 to 40,000+ bp
Sizing Accuracy	± 20% - up to 10 kb, based on ladder
Sizing Precision	20% CV - up to 10 kb, based on ladder
Concentration Range	2 ng/µL - sample diluted 10X with water 0.2 ng/µL – 5ng/µL - sample undiluted
Sensitivity	0.1 ng/µL per fragment (Sample undiluted; S/N > 3; intact Human Control gDNA)
Quantitation Accuracy	± 30% - Based on PicoGreen & plate reader quantitation of Human Control gDNA
Quantitation Precision	20% CV - Based on Human Control gDNA
Sample Volume Required	1 µL (diluted), 10 µL (undiluted) - requires 384-well plate
Analysis Time	48 samples in 2.5 hrs - walk-away time
Samples per Chip Reagent Kit	480
Chip Reagent Kit Stability	3-9 months

¹ Human Control gDNA from intestine was purchased from BioChain (Hayward, CA).

For the complete Genomic DNA Assay User Guide, go to: www.perkinelmer.com