ssDNA 7K Ladder Quick Guide using RNA Pico Reagent on LabChip® GX Touch/GXII Touch

Notes:

- Allow the DNA 5K/RNA/CZE HT LabChip (P/N 760435) and all refrigerated RNA Pico reagents (P/N CLS960012) to equilibrate to room temperature for at least 30 minutes before use.
- ***The RNA Dye Concentrate must be completely thawed and vortexed before use. Protect from light.***
- Thaw the ssDNA 7K Ladder (P/N CLS157950) on ice.
- Copy the ssDNA Assay file "ssDNA 7K.asyx" (P/N CLS157952) to the **C:\Program Files\PerkinElmer\LabChip GX Touch\Assay** folder on the LabChip GX Touch instrument.

Preparation of Gel-Dye Solution

NOTE: The prepared volume of Gel-Dye solution is enough for one HT (High-Throughput) or two LT (Low-Throughput) chip preps.

Warning: The dye is light sensitive. **Do not expose the Dye or Gel-Dye solution to light for any length of time.** Keep the prepared Gel-Dye solution in the dark.

1. Allow the chip and all refrigerated reagents to equilibrate to room temperature for at least 30 minutes before use.
2. Vortex the thawed RNA Dye Concentrate for 10 - 15 seconds before use.
3. Transfer **90 µL** of RNA Dye Concentrate (blue cap) to **1 vial** of the RNA Pico Gel Matrix (red cap).
4. Vortex and invert the tube several times until the solution is well mixed and spin it down for a few seconds.
5. Transfer the solution into a spin filter and centrifuge at 9300 rcf for 10 min at RT.
6. Discard the filter. Label and date the tube. Store in the dark at 2-8°C. Use within 5 days.

Chip Preparation Low-Throughput (LT) - up to 48 samples or High-Throughput (HT) - up to 96 samples

1. Rinse and completely aspirate each active well (1, 3, 4, 7, 8, and 10) twice with nuclease-free water.
2. Using a Reverse Pipetting Technique, add Gel-Dye solution to chip wells 3, 7, 8, and 10 as shown in **Figure 1 (LT)** or **Figure 2 (HT)**.
3. Add **50 µL (LT)** or **100 µL (HT)** RNA Pico Marker to chip well 4 as shown in **Figure 1 (LT)** or **Figure 2 (HT)**.
4. Clean both sides of the chip window with the supplied clean room cloth dampened with 70% isopropanol.
5. Make sure the rims of the chip wells are clean and dry.
6. **IMPORTANT**: Ensure chip well 1 (waste well) is empty before placing the chip into the LabChip GX Touch/GXII Touch.

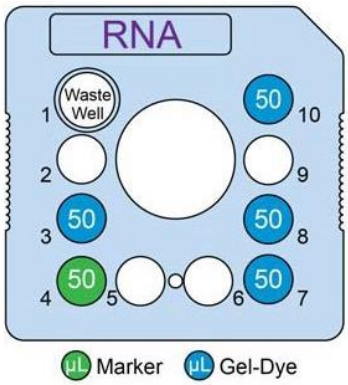

Figure 1. Low-Throughput Chip Preparation

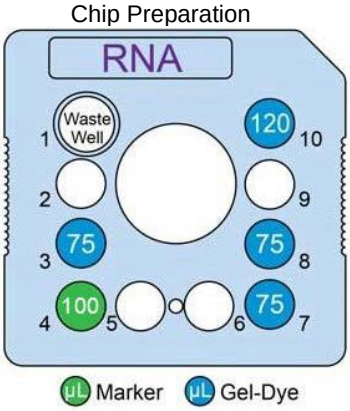

Figure 2. High-Throughput Chip Preparation

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Sample, Ladder and Buffer Preparation

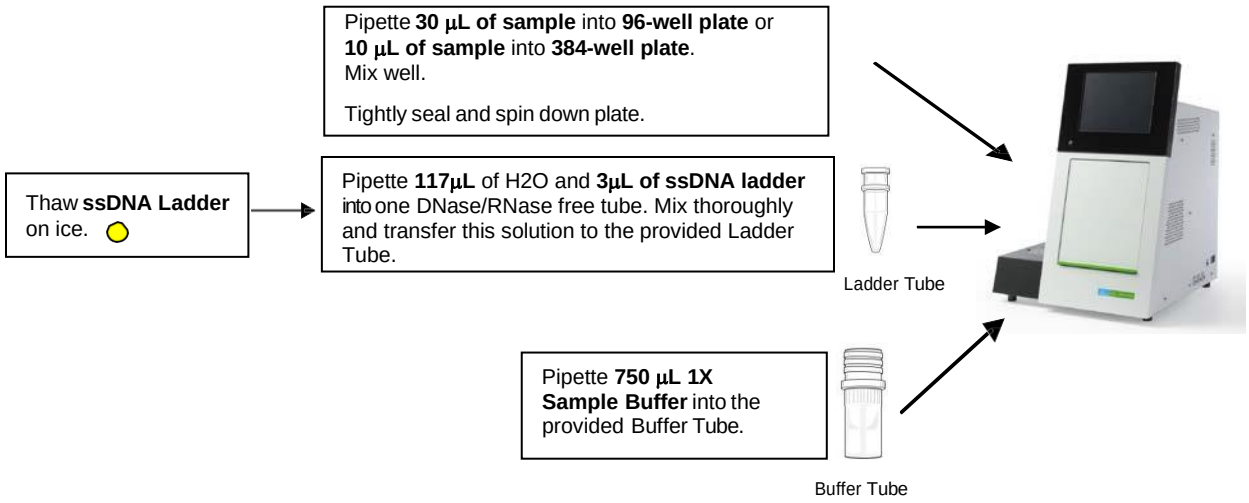

Figure 3. Sample, Ladder Tube, and Buffer Tube Preparation

1. Prepare 1X **Sample Buffer** by adding **200 µL** RNA Sample Buffer Concentrate to **1800 µL DEPC treated or nuclease-free water**. (**Note:** The RNA Sample Buffer Concentrate is a 10X solution. Sample Buffer is stable after dilution, but to avoid RNase contamination, sample buffer should be prepared fresh.)
2. Prepare sample, Ladder Tube and Buffer Tube according to **Figure 3**. In LabChip® GX Touch™ software, select "HT DNA5K" assay, then click "ssDNA 7K" program to RUN.

Note: *There is no need for heating treatment of ssDNA Ladder. Denature process by chemical or heat might be required for samples which are depended on sample preparation process and storage buffer.*

Chip Cleaning and Storage

After use, clean the chip and store in the chip container.

1. Place the chip into the chip storage container. Verify the sipper is submerged in the fluid reservoir.
2. Remove reagents from each well using a vacuum.
3. Rinse and completely aspirate each active well (1, 3, 4, 7, 8, and 10) twice with water (Milli-Q® or equivalent).
4. Add **120 µL** of RNA Chip Storage Buffer to the active wells.
5. Place the chip back into the LabChip GX Touch/GXII Touch. Ensure a Buffer Tube with **750 µL RNA Chip Storage Buffer** is in the buffer slot.
6. Touch the **Wash** button on the Home screen.
7. Touch the **Wash** button on the Wash screen.
8. When the chip wash is complete, remove the chip from the instrument and place the chip into the chip storage container.
9. Add an additional **50 µL RNA Chip Storage Buffer** to well 1.
10. Cover the wells with Parafilm® to prevent evaporation and store at 2-8°C. Storing a chip with dry wells may clog the chip. If using the chip again within 24 hours, the chip can be stored at room temperature.

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