

February 2021

Quick-Start Guide

QX DNA Size Marker Large-Fragment Kit

This Quick-Start Guide describes using the QX DNA Size Marker Large-Fragment Kit on the QIAxcel® instrument.

Equipment and reagents to be supplied by user

- QIAxcel DNA High Resolution Kit (cat. no. 929002)
- QX DNA Size Marker Large-Fragment Kit (cat. no. 929710)
- QX Nitrogen Cylinder (cat. no. 929705)

Installation of the QIAxcel ScreenGel® profiles for large fragments

We recommend using the process profile **DNA Large Fragment Marker.xpp** (for ScreenGel 1.6 or higher) on your instrument PC and analysis PC.

The newest ScreenGel Software package is available at the **Product Resources** tab of www.qiagen.com/p/QIAxcel. Before launching the installation, close the QIAxcel ScreenGel Software. To install the QIAxcel ScreenGel process profile **DNA Large Fragment Marker.xpp**, follow the steps below.

1. Download the QIAxcel ScreenGel Profiles for Large Fragments from the QIAGEN® website to the computer (QIAxcel System – QIAGEN Online Shop).
2. Unzip the downloaded file.
3. Launch the *.msi file.
4. The profiles will be installed to the QIAxcel ScreenGel Software data structure.
5. Follow the steps of the installation wizard.
6. Select the QIAxcel ScreenGel installation path. The default path is **C:\ProgramData\QIAGEN\Qiaxcel\ScreenGel**. If necessary, modify the path.
7. Click **Finish** to close the installation window.
8. After installation, the QIAxcel ScreenGel Software can be started and the installed process profiles can be selected.

For more details regarding selection of the process profiles, see "Profiles" in the *QIAxcel Advanced User Manual*, which can be downloaded from www.qiagen.com.

Preparation of DNA size marker and samples

The minimum sample volume required for analysis is 10 µl. Less than 0.1 µl of the sample is injected into the QIAxcel DNA Cartridge for analysis, and the remaining DNA is available for re-analysis. To prevent capillaries from drying out, fill all 12 positions in a row with either sample or QX DNA Dilution Buffer.

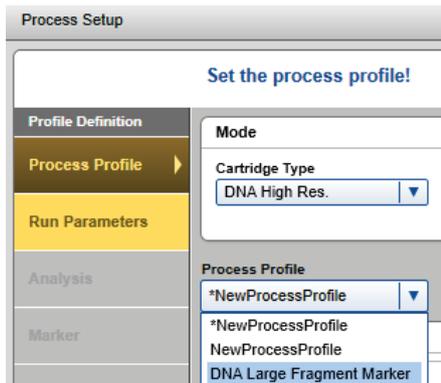
DNA size marker

For analysis of gDNA, use the QX DNA Size Marker Large-Fragment, which is already diluted in the right concentration, so that it is ready to use. Pipet 10 µl of the DNA Size Marker Large-Fragment in position A1.

Genomic DNA samples

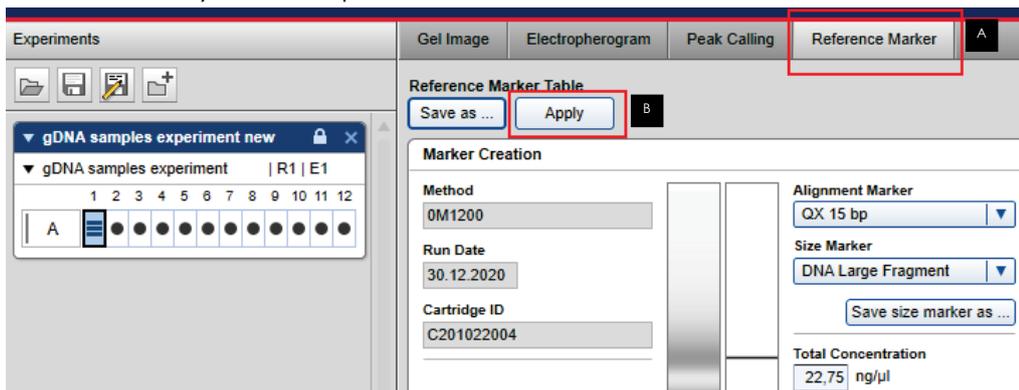
For quality control of gDNA samples, dilute samples 1:2 by adding 5 µl DNA sample to 5 µl QX DNA Dilution Buffer in either a 12-tube strip or a well of a 96-well plate. Mix, centrifuge briefly, and place the diluted samples into the sample plate holder.

1. Prepare the QIAxcel Gel Cartridge and buffer tray: A detailed description of the procedure is described in the *QIAxcel® DNA Handbook*.
2. Please select the pre-defined process profile **DNA Large Fragment Marker**. This profile enables the setup of an automatic run and marker analysis on the QIAxcel.

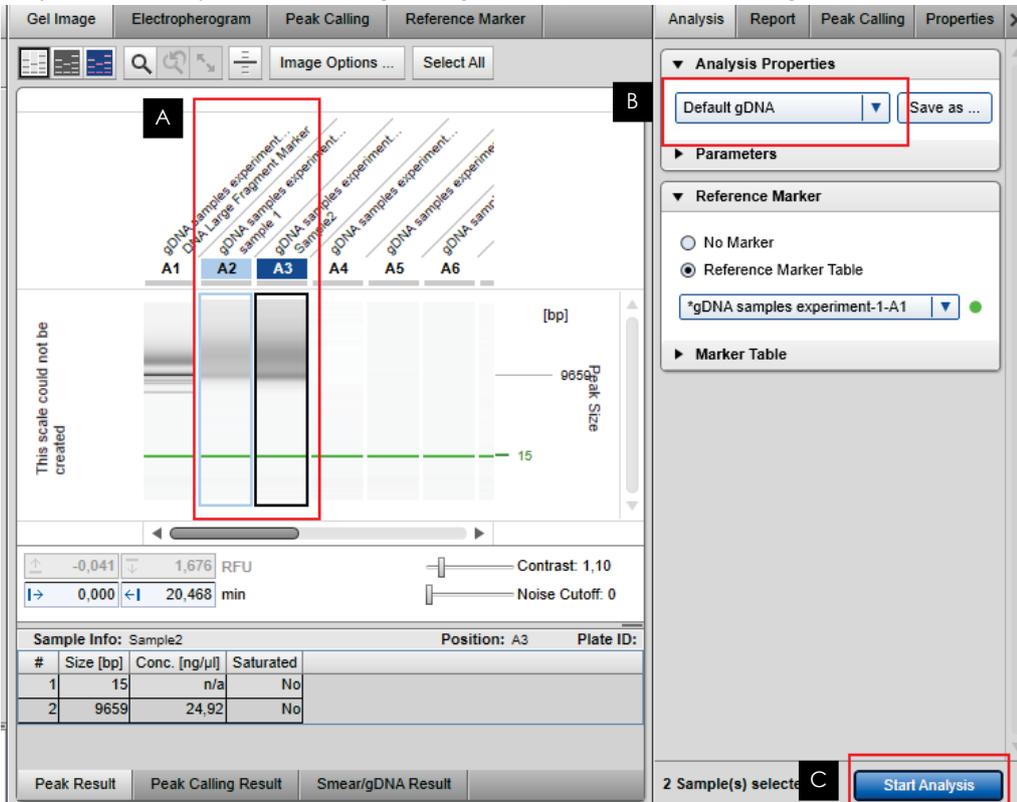


Analysis

1. When using the process profile **DNA Large Fragment Marker**, an automatic analysis of the marker will be performed.
2. Go to **Reference Marker** (A) and click **Apply** (B). The Marker is now available and preselected for further analyses of the experiment.



- Return to the **Gel Image** view and select your samples in the gel image (A), select the analysis profile **Default gDNA** under **Analysis Properties** (B), then click **Start Analysis** (C).



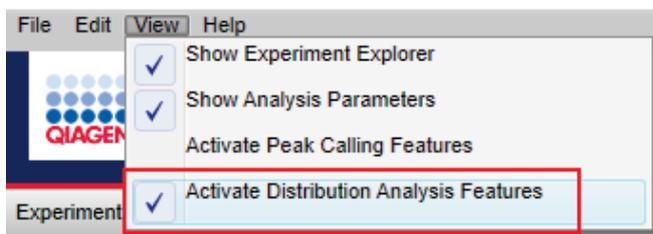
- The results regarding sizing and concentration are available in the **Smear/gDNA Result** table.

Sample Info: sample 1		Position: A2		Plate ID:	
Total Concentration [ng/μl] 24,23		Total Molarity [nmol/l] 2,66			
#	Median Size [bp]	Conc. Area of Interest [ng/μl]	Mol. [nmol/l]	Area of Interest	
2	23703	22,40		n/a	

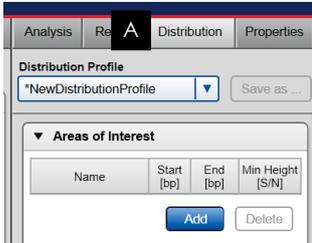
- Additionally, you can use concentration ratios to define the distribution in your sample.

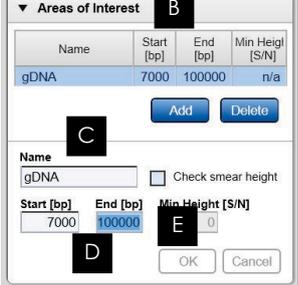
- Activate **Distribution Analysis Features** in the software.

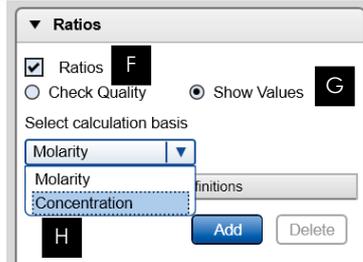
QIAxcel ScreenGel

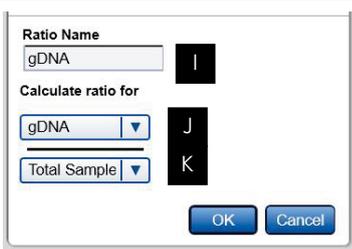


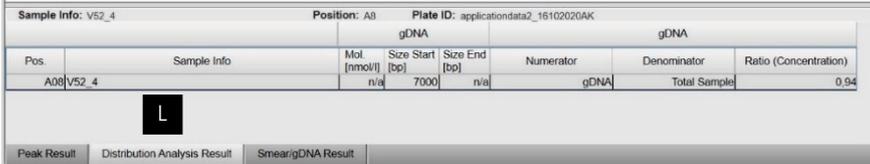
- 5b. Select (1) **Distribution** (A), and (2) add new **Areas of Interest** (B). Fill out the **Name** (C) and **Start [bp]** and **End [bp]** (D) of the range, and select **OK** (E) for the area of interest. (3) In the section **Ratios**, check the **Ratio** checkbox (F). Select **Show Values** (G) and select **Concentration** (H) as calculation basis. (4) Type the **Ratio Name** (I) and select the area of interest (J) divided by the **Total Sample** (K) for your ratio. The result table (5) is shown in the **Distribution Analysis Result** tab (L).

1. 

2. 

3. 

4. 

5. 

6. You can generate a report or export your data. Please refer to the **Report/Export** chapter in the *QIAxcel User Manual* for more detail.

Revision History

Date	Changes
R1 February 2021	Initial release.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

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