June 2022

QIAxcel® RNA High-Sensitivity Kit Handbook

For automated quantitative and qualitative RNA analysis using the QIAxcel Connect instrument

Sample to Insight

Contents

Kit Contents

QIAxcel RNA High-Sensitivity Kit	(1200)
Catalog no.	929112
No. of samples	12 x 100
QIAxcel RNA High-Sensitivity Cartridge (with smart key)	1
QX HS Separation Buffer*	80 ml
QX HS Wash Buffer	80 ml
QX RNA HS Dilution Buffer	100 ml
QX Mineral Oil	50 ml
QX RNA Booster Buffer	100 ml
QX HS Intensity Calibration Marker	20 µl
QX 0.2 ml 12-Tube Strips	2
QX Colored 0.2 ml 12-Tube Strips	2
QX RNA Size Marker (200–6000 nt)	3 x 50 µl
QX RNA HS Alignment Marker	4x 100 µl
QX RNA Denaturation Buffer	3 x 1.4 ml
Quick Start Protocol	1

* Contains sodium azide as a preservative.

Shipping and Storage

The QIAxcel RNA High-Sensitivity Kit is shipped in two boxes. Upon arrival, the QIAxcel RNA High-Sensitivity Cartridge and QX RNA Denaturation Buffer should be stored at 2–8°C. The QX HS Intensity Calibration Marker, QX RNA HS Alignment Marker, and QX RNA Size Marker 200–6000 nt should be stored at –30°C to –15°C. We recommend aliquoting the markers (e.g., in 5 µl or 10 µl volumes) before storage at –30°C to –15°C to minimize freeze-thaw cycles. All remaining kit components can be stored and room temperature (15–25°C).

Note: Storing the QIAxcel RNA High-Sensitivity Cartridge below 2°C can severely damage the cartridge.

Intended Use

The QIAxcel RNA High-Sensitivity Kit is intended for molecular biology applications. This product is not intended for the diagnosis, prevention, or treatment of a disease.

All due care and attention should be exercised in the handling of the products. We recommend all users of QIAGEN® products to adhere to the NIH guidelines that have been developed for recombinant DNA experiments, or to other applicable guidelines.

Safety Information

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, please consult the appropriate safety data sheets (SDSs). These are available online in convenient and compact PDF format at **www.qiagen.com/safety**, where you can find, view, and print the SDS for each QIAGEN kit and kit component.

Quality Control

In accordance with QIAGEN's ISO-certified Quality Management System, each lot of the QIAxcel RNA High-Sensitivity Kit is tested against predetermined specifications to ensure consistent product quality.

Introduction

QIAxcel instruments, in combination with the QIAxcel DNA and RNA kits and accessories, provide fully automated separation of nucleic acid fragments by size, processing up to 96 samples per run.

QIAxcel Connect is an automated capillary electrophoresis instrument that provides unmatched resolution, speed, and throughput. QIAxcel gel cartridges are reusable, allowing multiple runs of 12 samples (up to 100 runs with the QIAxcel RNA High-Sensitivity Kit) to be performed. QIAxcel Connect instrument comes with the QIAxcel ScreenGel® software, which has preinstalled methods suitable for most applications. In addition, customized methods can also be created — contact QIAGEN Technical Services for more details.

Quality control of RNA samples is a recommended step many molecular biology workflows for gene expression and regulation analysis. The QIAxcel system provides information about the size distribution, concentration, quality, and integrity of RNA by reporting RIS number (RNA Integrity Score) for analyzed samples.

The QIAxcel system uses capillary gel electrophoresis to enable fast separation of nucleic acids based on size. Unlike traditional agarose gel electrophoresis, separation is performed in a capillary of a precast gel cartridge. Each sample is automatically loaded into an individual capillary (according to voltage and time parameters) and voltage is applied. The negatively charged nucleic acid molecules migrate through the capillary to the positively charged end (Figure 1, page 6). As with agarose gel electrophoresis, low-molecular-weight molecules migrate faster than high-molecular-weight molecules. As the molecules migrate through the capillary, they pass a detector that detects and measures a fluorescent signal. A photomultiplier detector converts the emission signal into electronic data, which is then transferred to the computer for further processing using QIAxcel ScreenGel software. After processing, the data is displayed as an electropherogram or gel image.

The QIAxcel system offers a number of advantages over traditional agarose gel electrophoresis, including:

- Higher detection sensitivity
- Less sample loss (minimal sample input volumes)
- Improved fragment resolution
- Fast analysis of up to 96 samples
- Automated loading and analysis

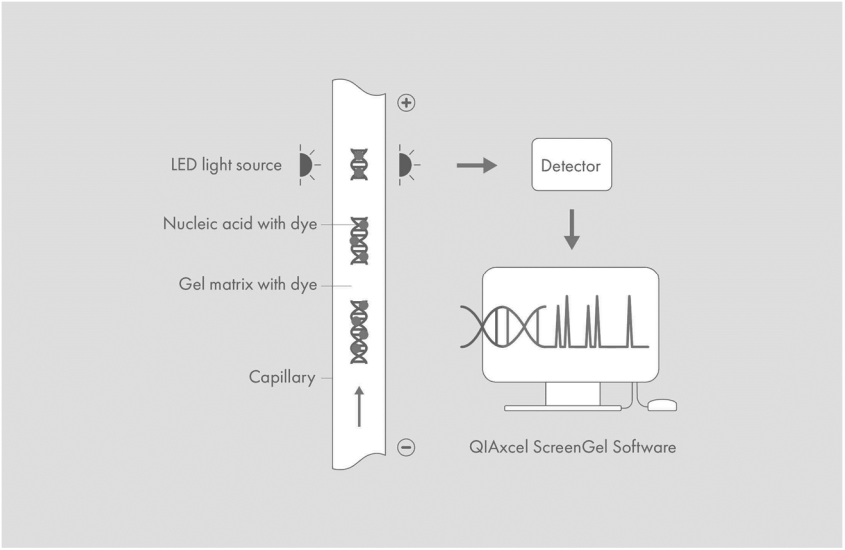


Figure 1. Sample separation process using the QIAxcel system. By applying a voltage to a gel-filled capillary nucleic acid molecules are separated in an electric field according to their size. A photomultiplier detector detects the fluorescent labelled nucleic acid molecules as they migrate towards the positively charged end of the capillary. The migration patterns are converted to electropherograms and a gel images by the QIAxcel ScreenGel software.

Equipment and Reagents to Be Supplied by User

When working with chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles. For more information, consult the appropriate safety data sheets (SDSs), available from the product supplier.

- 12-tube strips (e.g., QX 0.2 ml 12-Tube Strip, cat. no. 929703) or 96-well plates
- Centrifuge with rotor suitable for 0.2 ml strips or 96-well plates, such as the Centrifuge 4-16 or Centrifuge 4-16K (for ordering information, see **www.qiagen.com**)
- Heating block or thermal cycler suitable for 0.2 ml strips or 96-well plates for denaturation of samples at 70°C
- QIAxcel Connect instrument (cat. no. 9003110) and QIAxcel ScreenGel software version 2.0 or higher

Important Notes

Preparing the QIAxcel gel cartridge and buffer tray

This procedure describes how to prepare the QIAxcel RNA High-Sensitivity Cartridge and buffer tray prior to RNA analysis.

Important points before starting

- The 0.2 ml 12-tube strips containing QX RNA HS Alignment Marker and QX HS Intensity Calibration Marker (if required) should fit loosely in the MARKER1 and MARKER2 positions.
- If less than 12 samples are processed, fill the empty sample wells with the QX RNA HS Dilution Buffer. Processing empty wells may cause damage to the capillary channels of the gel cartridge.
- Working-dilution of QX RNA HS Alignment Marker should be replaced daily or every 8 runs, whichever comes first.
- 12-tube strips containing samples with volumes less than 10 µl should be covered with mineral oil.
- For optimal performance, store the QIAxcel gel cartridge at 2–8°C and in an upright position. Prior to use, the QIAxcel gel cartridge should be allowed to equilibrate at room temperature (20–25°C) for at least 20 minutes.

Things to do before starting

- If the QIAxcel RNA High-Sensitivity Cartridge is being used for the first time, intensity calibration should be performed (refer to section 6.5.1 of the QIAxcel ScreenGel Software User Manual). This is not necessary if QIAxcel RNA High-Sensitivity Cartridge has already been calibrated, unless it is being used on a different QIAxcel instrument or with a different computer to operate the instrument. If a different computer is being used to operate the QIAxcel instrument, the calibration log file must be transferred to the new computer so that calibration does not need to be performed again.

Unpacking and preparing the QIAxcel gel cartridge

For optimal performance, store the QIAxcel RNA High-Sensitivity Cartridge at 2–8°C and in an upright position until use. Prior to use, the QIAxcel RNA High-Sensitivity Cartridge should be equilibrated at room temperature for at least 20 minutes. This can be done by placing the cartridge into the QX Cartridge Stand protected with the cover, vertically in the blister package, or stored latched in the instrument in the "Park Position" with buffer in the buffer tray.

1. Remove all buffer bottles from the kit box.
2. Add 10 ml QX HS Wash Buffer to both reservoirs of the QX Cartridge Stand (provided with QIAxcel instruments) and cover with 2 ml mineral oil (supplied).
3. Remove the QIAxcel RNA High-Sensitivity Cartridge from its packaging and carefully wipe off any soft gel debris from the capillary tips using a soft tissue.
4. Remove the purge cap seal from the back of QIAxcel RNA High-Sensitivity Cartridge and place the gel cartridge in the QX Cartridge Stand or in the QIAxcel instrument. Retain the purge port seal in case you need to store the QIAxcel RNA High-Sensitivity Cartridge .

   Note: Use a soft tissue to wipe off any gel that may have leaked from the purge port.

   Note: Ensure that the capillary tips are submerged in QX HS Wash Buffer.
5. Equilibrate new cartridges for at least 20 minutes at room temperature prior to use.

Figure 2. Preparing the QIAxcel gel cartridge. Upright storage in QX Cartridge Stand (cat. no. 929708) is recommended.

When the QIAxcel gel cartridge is not in use, close the purge port with the purge port seal, return the QIAxcel RNA High-Sensitivity Cartridge to the blister package, inserting the capillary tips into the soft gel, and store at 2–8°C in an upright position (see orientation label on blister package).

Preparing the buffer tray

1. Allow all reagents to equilibrate to room temperature (15–25°C) before use.
2. Wash the buffer tray with hot water and rinse thoroughly with deionized water.
3. Fill the WP and WI positions of the buffer tray with 8 ml QX HS Wash Buffer (Figure 3).
4. Fill the BUFFER position of the buffer tray with 18 ml QX HS Separation Buffer (Figure 3).

5. Carefully add mineral oil to cover all 3 positions to prevent evaporation: add 2 ml mineral oil to positions WP and WI and add 4 ml mineral oil to position BUFFER.
6. Insert the buffer tray into the buffer tray holder so that the slots for the 12 tube strips face the front of the instrument.

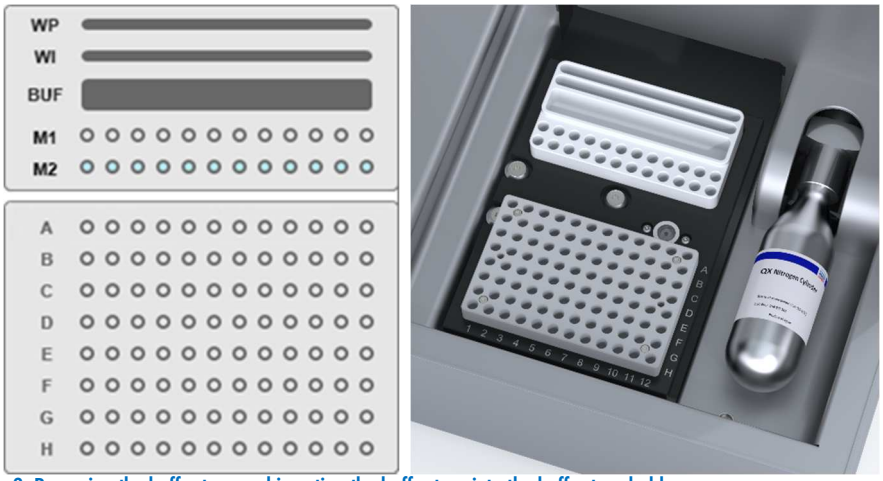


Figure 3. Preparing the buffer tray and inserting the buffer tray into the buffer tray holder.

Loading a QIAxcel RNA High-Sensitivity Cartridge and smart key

1. Remove the QIAxcel RNA High-Sensitivity Cartridge from its packaging or from the QX Cartridge Stand.
2. Open the cartridge door and place the QIAxcel RNA High-Sensitivity Cartridge into the QIAxcel Connect instrument. The cartridge description label should face the front and the purge port should face the back of the instrument.
3. Insert the smart key into the smart key socket. The smart key can be inserted in either direction.
4. Close the cartridge door.
5. The cartridge identifier, number of runs remaining, and cartridge type will be displayed automatically in the software when the cartridge smart key is inserted.

   Note: The system will not recognize the cartridge and will not operate if the smart key is not inserted.

Figure 4. Installing the QIAxcel gel cartridge and smart key in the QIAxcel Connect instrument.

Intensity calibration

Every QIAxcel RNA High-Sensitivity Cartridge requires intensity calibration prior to sample analysis. The intensities of each capillary are normalized and a factor is applied for every subsequent run. This corrects for natural intensity reading variations between each capillary in the cartridge.

Intensity calibration of the cartridge takes about 16 minutes.

1. Prepare a 1:100 dilution of the QX HS Intensity Calibration Marker using the QX HS RNA Dilution Buffer. Add 2 µl of QX HS Intensity Calibration Marker to 198 µl of QX HS RNA Dilution Buffer.
2. Load 15 µl of the prepared QX HS Intensity Calibration Marker dilution into each tube of a QX Colored 0.2 ml 12-Tube Strip. Add a drop of mineral oil, and insert the strip into the MARKER2 position of the buffer tray.

   Note: Discard any leftover of the prepared dilution.
3. Launch the calibration run by clicking the "Start calibration" button in the "Calibration" screen of the "Service" environment.
4. Once the calibration is complete, the calibration results are displayed next to the gel image or the electropherogram view. The result table shows the area, calibration factor, and the result ("Pass" or "Fail") for each channel.

   Note: A successfully calibrated cartridge should have a normalized area calibrated range between 0.016–0.024.
5. If one or more channels show no signals in the first run, refer to Appendix A, page 23.
6. If one or more channels show high background noise, refer to Section 8 of the QIAxcel ScreenGel Software User Manual.

7. If calibration fails more than twice, call QIAGEN Technical Services.

   Note: If calibration fails, the dilution of the QX HS Intensity Calibration Marker should be prepared freshly.

   Note: If, for any reason, a different computer is used to the one on which the calibration file is saved, the calibration file should be transferred to the new computer. For more information refer to QIAxcel ScreenGel Software User Manual.

Recalibration using QIAxcel ScreenGel Software

To recalibrate a cartridge, repeat the procedure described in "Intensity calibration using QIAxcel ScreenGel Software". The calibration results of the previous calibration procedure are discarded when recalibrating a cartridge.

Note: It is possible to calibrate a cartridge for which no calibration runs remain. In this case, 3 of the remaining regular runs are used instead of 1 calibration run.

Preparing QX RNA HS Alignment Marker

1. Prepare 1:100 dilution of the QX RNA HS Alignment Marker using the QX RNA HS Dilution Buffer. Add 2 µl of QX RNA HS Alignment Marker to 198 µl of QX RNA HS Dilution Buffer.
2. Load 15 µl of the prepared QX RNA HS Alignment Marker dilution into each tube of a QX 0.2 ml 12-Tube Strip.

   Note: Discard any leftover of the prepared dilution.
3. Add 1 drop of mineral oil to each tube, and place the strip into the MARKER1 position of the buffer tray.

Prepare the RNA Samples and QX RNA Size Marker 200–6000 nt

Note: Keep samples and markers on ice.

1. Dilute the QX RNA Size Marker 200–6000 nt 1:100 with QX RNA HS Dilution Buffer (we recommend preparing a final volume of at least 100 µl).
2. **Optional**: If the RNA sample has a concentration above 50 ng/µl or gave saturated RNA peaks in the electropherograms, dilute the sample with QX RNA HS Dilution Buffer or nuclease-free water to a concentration up to 50 ng/µl.
3. For each sample, pipet 1 µl sample into a corresponding position of a 0.2 ml 12-tube strip or a 96-well plate.
4. Pipet 1 µl of the diluted Size Marker into another position of the 12-tube strip or 96-well plate.
5. Add an equal volume of QX RNA Denaturation Buffer to each used tube or well. Cover the tubes with caps or the plate with foil.
6. Heat the mixture for 2 min at 70°C on a heating block or in a thermal cycler, and then place the tubes or plate on ice for 1 minute.
7. Centrifuge the mixtures briefly to collect any condensation.
8. Bring the total volume of the samples and size marker to 6–10 µl using QX RNA HS Dilution Buffer (for final sample run concentrations up to 50 ng/µl) or QX RNA Booster Buffer (for final sample run concentrations between 50 pg/µl and 1 ng/µl), and mix the solution by gently pipetting up and down a few times.
9. Start the run immediately.

   Note: If working with less than 10 µl of final volume, add 1 drop of mineral oil.

   Note: If analyzing less than 12 samples, fill the empty positions with QX RNA HS Dilution Buffer to protect the capillaries from damage.

   Note: The 1:100 dilution of all markers is the working solution for one day and should be prepared fresh for each day.

Sample preparation recommendations

The sample concentration range to be used with the QIAxcel RNA High-Sensitivity cartridge is 50 pg/µl to 50 ng/µl.

If the concentration of your sample is too high or gave saturated RNA peaks in the electropherograms, prepare a dilution with QX RNA HS Dilution Buffer or nuclease-free water to a concentration up to 50 ng/µl at step 2 in "Prepare the RNA Samples and QX RNA Size Marker 200–6000 nt", page 15.

If only low or no RNA peaks are obtained in the electropherograms or if the RNA samples are low concentration (for final sample run concentrations between 50 pg/µl and 1 ng/µl), use QX RNA Booster Buffer at step 8 in "Prepare the RNA Samples and QX RNA Size Marker 200–6000 nt", page 15, as diluent to obtain a total volume of 6–10 µl.

Protocol: Determination ot RNA Fragment Sizes Using QIAxcel ScreenGel Software

Important points before starting

Before beginning the procedure, read “Important Notes” beginning on page 8.

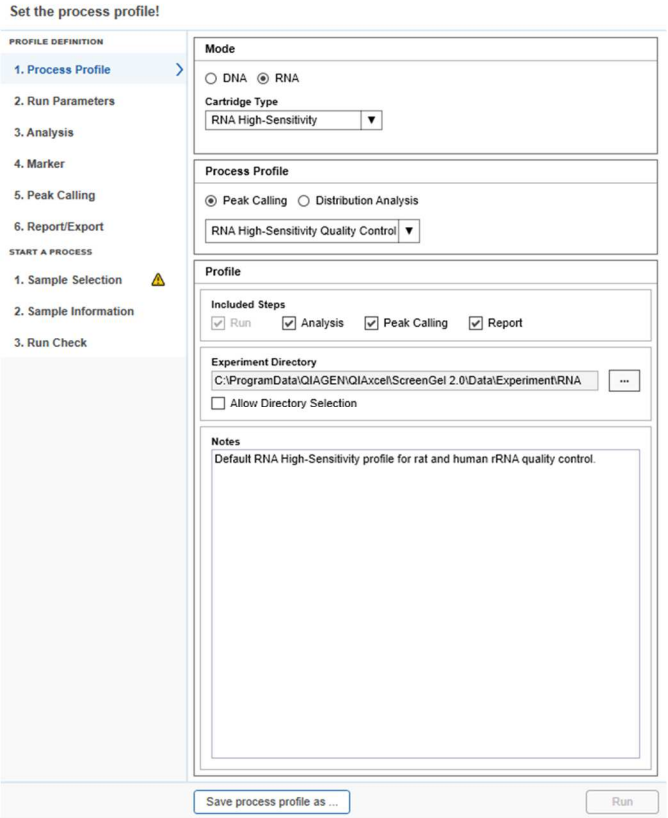
Procedure

1. Switch on the QIAxcel instrument.
2. Switch on the computer, launch the QIAxcel ScreenGel software, and log in as a user in “RNA mode”.
3. Install the QIAxcel RNA High-Sensitivity gel cartridge.
4. Refer to Section 5.2.1 of the QIAxcel ScreenGel Software User Manual for more details.
5. Load the buffer tray containing the QX HS RNA Alignment Marker into the buffer tray holder.

   Refer to Section 5.2.5 of the QIAxcel ScreenGel Software User Manual for more details.

   Note: QX HS RNA Alignment Markers should be replaced daily or every 8 runs, whichever comes first.
6. Load the sample strips or load a 96-well plate containing samples onto the sample tray holder.
7. Note: The cartridge door and sample door of the QIAxcel instrument must remain closed during operation of the instrument. Opening the cartridge door or sample door during operation will cause the system to stop any action it is performing.

8. Select the Default RNA High-Sensitivity process profile from the Process Profile drop-down list.

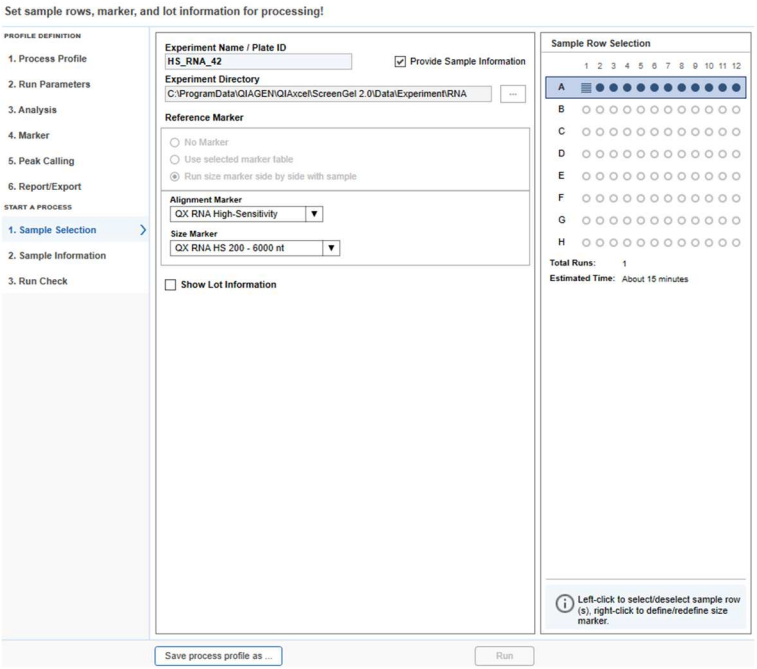


Note: Process profiles provide preset analysis and report parameters for samples. Process profiles can also be created by the user. See section 6.3 of the QIAxcel ScreenGel Software User Manual for a description of how to create process profiles.

9. Go to "Run Parameters" to select the rows containing your samples.

Note: By default row A is selected with the size marker on position A1. Additional rows can be selected/ deselected by a left-click. The position of the size marker can be changed by a right-click on the position.

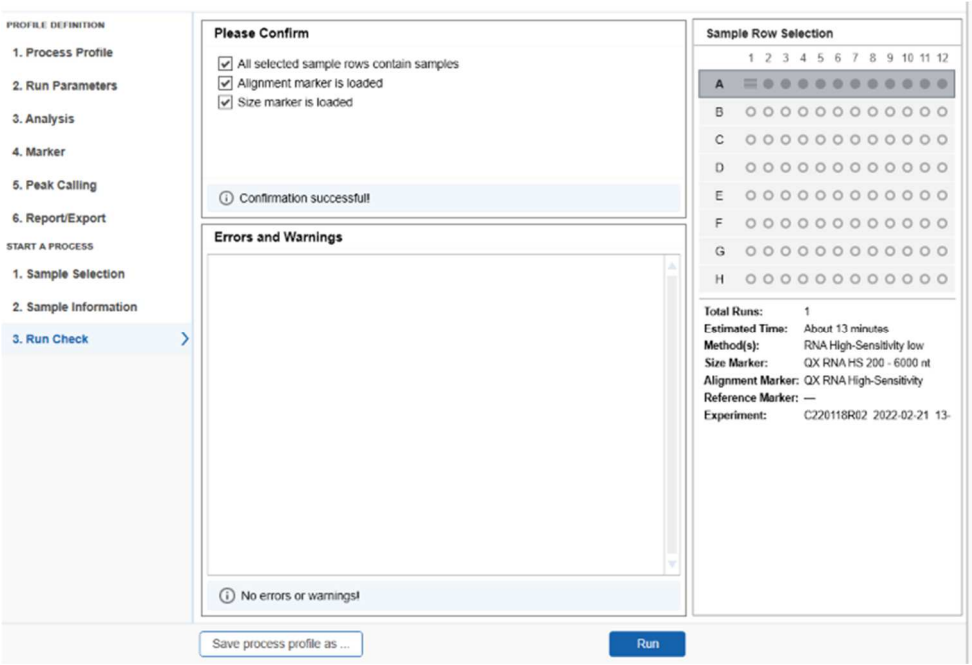
10. Next, under “Sample Selection”, size marker position, lot number information, and experiment name can be modified.



11. Go to “2. Sample Information” to enter information about the sample.

12. Open "3. Run Check", and confirm that samples and markers have been loaded correctly.

    Click "Run" to start the run.



Note: A report is automatically generated according to the settings in the selected process profile.

Note: Changes to the analysis settings can be performed by users with the user roles Administrator or Developer (refer to section 6.4 in the *QIAxcel ScreenGel Software User Manual* for more information on how to change the analysis settings).

Troubleshooting Guide

This troubleshooting guide may be helpful in solving any problems that may arise. For more information, see also the Frequently Asked Questions page in our Technical Support Center: **www.qiagen.com/FAQ/FAQList.aspx**. The scientists in QIAGEN Technical Services are always happy to answer any questions you may have about either the information or protocols in this handbook (for contact information, visit **support.qiagen.com**).

For comments and suggestions, please refer to the "Troubleshooting" section of the *QIAxcel Connect System User Manual*.

Contact Information

For technical assistance and more information, please see our Technical Support Center at **www.qiagen.com/Support**, call 00800-22-44-6000, or contact one of the QIAGEN Technical Service Departments or local distributors (see back cover or visit **www.qiagen.com**).

Appendix A: Removing Gel from Blocked Capillaries

Blocked capillaries may lead to issues during calibration or sample runs. Gel can be removed from blocked capillaries by performing the standard gel-droplet test. If the standard gel-droplet test fails, gel can be removed by performing the gel-droplet test with hot water or by performing the gel-droplet test using the QX Cartridge Prep Station. After confirmation of gel flow, a signal check can be performed before starting a calibration or sample run (see page 26).

Standard gel-droplet test

Note: The QIAxcel gel cartridge must be prepared before the standard gel-droplet test is performed. Prepare the QIAxcel gel cartridge by following steps 1–4 on page 9.

Procedure with QIAxcel ScreenGel software

1. Launch the QIAxcel ScreenGel software, and click "Load Position" in the status information bar.
2. Remove the buffer tray from the buffer tray holder.
3. Place a soft tissue on the buffer tray holder and click "Park Position".
4. Install the QIAxcel gel cartridge and the smart key as described in Section 5.2.1 of the QIAxcel ScreenGel User Manual.
5. Ensure that the cartridge identifier is displayed in the "Cartridge Status" window.
6. Click "Latch" to latch the cartridge if automatic latching is not active.
7. Switch to the "Service" Environment, and open the maintenance tab.
8. Click "Long Purge" to start purging.
9. The purging process stops automatically after 3 min. To stop the purging process, click "Stop".

10. Open the sample door. If all capillaries have formed homogeneous gel droplets, click "Unlatch". Remove the gel cartridge from the instrument and carefully clean the capillary tips with a wet tissue.
11. Note: If any capillary fails to form gel droplets, perform the gel-droplet test with hot water.
12. Remove the tissue from the buffer tray holder and insert the buffer tray into the buffer tray holder.
13. Place the gel cartridge into the QIAxcel instrument and perform the signal check (see page 26). 0.

Gel-droplet test with hot water

If any of the capillaries fail to form droplets in the standard gel-droplet test, clogged capillaries can be cleared by performing a purge test with hot water.

Procedure

1. If any of the capillaries fail to form droplets in the standard gel-droplet test (page 23), fill the reservoir of the QX Cartridge Stand (cat. no. 929708) with 12 ml hot (90°C or near boiling) water.
2. Place the cartridge in the reservoir of the QX Cartridge Stand and submerge the tips for 7–10 min in the hot water. This should soften the dried gel at the capillary tips.
3. Empty the reservoir and fill again with 12 ml hot water.
4. Repeat step 2 to soften any dried gel at the capillary tips.
5. Place the cartridge into the QIAxcel instrument and perform the standard gel-droplet test again (see page 23).
6. Check whether gel droplets form at the capillary tips. If any of the capillaries still do not form homogeneous gel droplets, submerge the capillary tips in hot water for 20–30 min and then repeat step 5.

7. If all capillaries form homogeneous gel droplets, clean the tips with wet tissue, and perform the manual signal check (see page 26). If after 3 attempts a capillary fails to form homogeneous gel droplets, contact QIAGEN Technical Services or perform the gel droplet test using the QX Cartridge Prep Station.

Gel-droplet test using the QX Cartridge Prep Station

If after 3 attempts homogeneous droplets do not form for all capillaries in the gel-droplet test with hot water (page 24), clogged capillaries can be cleared by performing a purge test in the QX Cartridge Prep Station (cat. no. 9018886).

1. Place the QIAxcel gel cartridge in the QX Cartridge Prep Station (cat. no. 9018886).
2. Attach the purge port clamp to the top of the cartridge (the knob should be in front of the cartridge), and gently tighten the knob to secure the cartridge.
3. Insert a QX Nitrogen Cylinder (cat. no. 929705) into the pressure regulator (cat. no. 9018398), and secure it inside the cylinder stand.

4. Slowly adjust the pressure to 60–65 psi, monitoring the pressure displayed in the pressure gauge.
5. Do not exceed 65 psi.
6. Check to see whether gel droplets form at the capillary tips.
7. If all capillaries formed homogeneous gel droplets within 1–3 min, turn off the pressure, remove the purge clamp and clean the tips with wet tissue.
8. Place the cartridge into the instrument, and perform the manual signal check (see below).
9. If any of the capillaries fail to form gel droplets within 1–3 min, contact QIAGEN Technical Services.

Performing a signal check

Proper function of the cartridge channels can be tested by performing a signal check. The signal check should be performed successfully (i.e., all channels should detect a single peak at 1.0–3.5 minutes) before running the calibration wizard again.

Things to do before starting

1. Prepare the buffer tray as described in Section 5.2.4 of the QIAxcel ScreenGel User Manual.
2. Load the buffer tray as described Section 5.2.5 of the QIAxcel ScreenGel User Manual.
3. Load the QX HS Intensity Calibration Marker into the MARKER2 position of the buffer tray (see “Intensity calibration”, page 13 , for more information).

Procedure using QIAxcel ScreenGel Software

1. Launch the QIAxcel ScreenGel Software.
2. From the drop-down list in the process profile tab, select the “Signal Check” process profile that corresponds to the cartridge in use.
3. Click the “Run Check” tab, enter the required information, and click “Run”.

4. If a single peak is detected in all channels, intensity calibration can be performed again (see “Intensity calibration”, page 13). If one or more channels fail to detect a peak (i.e., no band present), contact QIAGEN Technical Services.

Ordering Information

Product	Contents	Cat. no.
QIAxcel DNA High Resolution Kit (1200)	QIAxcel DNA High Resolution Cartridge, Buffers, Mineral Oil, QX Intensity Calibration Marker, 12-Tube Strips	929002
QIAxcel DNA Screening Kit (2400)	QIAxcel DNA Screening Cartridge, Buffers, Mineral Oil, QX Intensity Calibration Marker, 12-Tube Strips	929004
QIAxcel DNA High-Sensitivity Kit (1200)	QIAxcel DNA High-Sensitivity Cartridge, QIAxcel DNA High-Sensitivity Marker Set, Buffers, Mineral Oil, 12-Tube Strips	929012
QIAxcel DNA Fast Analysis Kit (3000)	QIAxcel DNA Fast Analysis Cartridge, Buffers, Mineral Oil, QX Intensity Calibration Marker, QX DNA Size Marker 50 bp – 1.5 kb, QX Alignment Marker 15 bp/3 kb, 12-Tube Strips	929008
QIAxcel RNA High-Sensitivity Kit (1200)	QIAxcel RNA High-Sensitivity Cartridge, QIAxcel RNA High-Sensitivity Marker Set, Buffers, Mineral Oil, 12-Tube Strips	929112
QIAxcel RNA QC Kit v2.0 (1200)	For 100 runs of 12 samples: QIAxcel RNA Quality Control Cartridge, Buffers, Mineral Oil, QX Intensity Calibration Marker, QX RNA Alignment Marker, QX RNA Size Marker 200–6000 nt, QX RNA Denaturation Buffer, 12-Tube Strips	929104

QIAxcel Connect System	Capillary electrophoresis device, including computer, and QIAxcel ScreenGel Software; 1-year warranty on parts and labor	9003132
QX Buffers		
QX RNA HS Dilution Buffer (100 ml)	100 ml QX RNA HS Dilution Buffer	929613
QX RNA Booster Buffer (100 ml)	100 ml QX RNA Booster Buffer	929614
QX Mineral Oil (50 ml)	50 ml QX Mineral Oil	929605
QIAxcel Accessories		
QX Cartridge Stand with Cover	QX Cartridge Stand and QX Cartridge Stand Cover	929708
QX Buffer Tray	Buffer tray for use with the QIAxcel system	929702
QX 0.2 ml 12-Tube Strip (80)	80 x QX 0.2 ml 12-Tube Strips	929703
QX Color 0.2 ml 12-Tube Strip (80)	80 x QX Color 0.2 ml 12-Tube Strips	929704
QX 0.2 ml 12-Tube Strip Caps (80)	80 strip caps for use with QX 0.2 ml 12-Tube Strips	929706
QX Nitrogen Cylinder (6)	6 QIAxcel Nitrogen Cylinders	929705

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.

Document Revision History

Revision	Description
R1, May 2022	Initial release

Limited License Agreement for QIAxcel RNA High-Sensitivity Kit

Use of this product signifies the agreement of any purchaser or user of the product to the following terms:

1. The product may be used solely in accordance with the protocols provided with the product and this handbook and for use with components contained in the kit only. QIAGEN grants no license under any of its intellectual property to use or incorporate the enclosed components of this kit with any components not included within this kit except as described in the protocols provided with the product, this handbook, and additional protocols available at www.qiagen.com. Some of these additional protocols have been provided by QIAGEN users for QIAGEN users. These protocols have not been thoroughly tested or optimized by QIAGEN. QIAGEN neither guarantees them nor warrants that they do not infringe the rights of third-parties.
2. Other than expressly stated licenses, QIAGEN makes no warranty that this kit and/or its use(s) do not infringe the rights of third-parties.
3. This kit and its components are licensed for one-time use and may not be reused, refurbished, or resold.
4. QIAGEN specifically disclaims any other licenses, expressed or implied other than those expressly stated.
5. The purchaser and user of the kit agree not to take or permit anyone else to take any steps that could lead to or facilitate any acts prohibited above. QIAGEN may enforce the prohibitions of this Limited License Agreement in any Court, and shall recover all its investigative and Court costs, including attorney fees, in any action to enforce this Limited License Agreement or any of its intellectual property rights relating to the kit and/or its components.

For updated license terms, see **www.qiagen.com**.

HB-3068-001 06/2022