Quick-Start Protocol February 2023

QIAcard® FTA® Elute Low Template Protocol

This low-template DNA protocol is for QIAcard FTA Elute Indicating cards spotted with extracted DNA. This protocol works well for DNA volumes as low as 10 µL and DNA concentration of 0.1 ng/µL. It is not recommended to use DNA that is of lower DNA amount than 1 ng in total.

Always wear gloves to avoid contamination of FTA Elute Cards. Follow universal precautions when handling biological specimens. Samples can be stored in a multi-barrier pouch with desiccant for long term storage.

Further information

- *QIAcard FTA Elute Buffer Handbook* (for DNA elution in QIAcard FTA Elute buffer): **www.qiagen.com/HB-3091**
- *Procedure for Elution of DNA Extracts from FTA Elute* (for DNA elution in TE^{-4} buffer): **www.qiagen.com/HB-2724**
- Safety Data Sheets: **www.qiagen.com/safety**
- Technical assistance: **support.qiagen.com**

Materials required

- QIAcard FTA Elute Buffer (WB120100)
- QIAcard FTA Elute Indicating Micro (cat. nos. WB120411 and WB120412)
- TE^{-4} buffer (10 mM Tris·Cl, 0.1 mM EDTA), pH 8.0
- Uni-Core® Punches 6.00 mm (cat. no. WB100040 or WB100082)
- Cutting Mat 6.0" x 8.0" or 2.5" x 3.0" (cat. no. WB100020 or WB100088)
- Heated mixer/shaker
- QIAshredder (cat. no. 79656)
- 2 mL microcentrifuge tubes

Applying DNA extract to QIAcard FTA Elute Indicating Micro

1. Label the QIAcard FTA Elute Indicating Micro with the appropriate sample identification.
2. Pipette a volume of up to 10 µL of DNA extract onto the card within the printed circle area.
3. Allow the sample to air-dry for at least 3 h at room temperature until dry.
4. Samples applied to QIAcard FTA Elute Indicating Micro should be archived at room temperature in a Multi-Barrier Pouch (cat. no. WB100036) with an Indicating Desiccant Pack (WB100003) or stored in a humidity-controlled, cool, dry environment.

Elution of DNA from QIAcard FTA Elute Indicating Micro

1. Place the QIAcard FTA Elute Indicating Micro on a cutting mat.
2. Remove four 6 mm punches from the FTA Elute Card and place the punches into a single QIAshredder basket inside a 2 mL microcentrifuge tube. To prevent contamination, it is recommended to utilize a clean punch (remove and discard a punch from an unused QIAcard FTA Elute format) between card-to-card sample punching.

   Note: The complete DNA spot on the FTA Elute card should be covered by the four punches. If some DNA is still remaining on the card, remove the remaining DNA-covered spot with the puncher.

   Note: A representative example for 10 µL DNA spotted on QIAcard FTA Elute Indicating cards is shown in Figure 1.

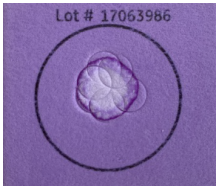

Figure 1. Representative example for 10 µL DNA spotted on QIAcard FTA Elute cards. For the low template DNA protocol, it is important to remove the complete DNA spot using the puncher.

Important: Before proceeding to steps 3 to 6, please note that there is potential for loss of sample if the punches are left in TE^{-4} buffer during the wash steps for too long. Therefore if having more than 2 samples it is recommended to pause after step 6 and start the first

wash (steps 3 to 6) with the next batch of 2 samples. Once all samples complete the first wash, proceed with the next wash as described here. Batch processing can begin at step 8 with the addition of QIAcard FTA Elute Buffer for elution.

3. Pipette 500 µL of TE^{-4} buffer into the QIAshredder basket containing the punches.
4. Close the basket and vortex the microcentrifuge tube for 5 s. Ensure the punches move up into the center of the QIAshredder basket when they are vortexed.
5. Centrifuge the microcentrifuge tube at 2000 rpm for 1 min to separate the wash liquid from the punches.
6. Pipette off the TE^{-4} buffer flowthrough and discard. Put the QIAshredder basket back into the 2 mL microcentrifuge tube.
7. Repeat steps 3 to 6 (for a total of 2 washes with TE^{-4} buffer).
8. Transfer the punches in a fresh 2 mL microcentrifuge tube. Keep the QIAshredder basket for later use.
9. Pipette 160 µL QIAcard FTA Elute Buffer into the microcentrifuge tube containing the punches and close the microcentrifuge tube.

   Note: This addition of QIAcard FTA Elute Buffer will serve as the elution volume.
10. Place the microcentrifuge tube on a heated mixer/shaker at 95°C for 20 min at 1000 rpm.
11. After incubation, briefly centrifuge the microcentrifuge tube to remove any excess liquid from the cap.

    Transfer the punches and the eluate to a QIAshredder basket, put the basket back into the original microcentrifuge tube that was used for elution, close the QIAshredder basket, and spin at maximum speed for 2 min.

    Note: If the punches were washed within a QIAshredder basket before, the same QIAshredder can be used that was saved for later use.

    Note: If there is still liquid in the basket, use a clean pipette tip to move the punches away from the fritte of the QIAshredder basket and repeat centrifugation.
12. Remove and discard the QIAshredder basket including the punches, and proceed with quantification and/or amplification of the eluted DNA.

Note: If the sample is too dilute to meet the DNA input needed for PCR amplification, the sample can be concentrated. Concentrating the eluate by evaporation is strongly discouraged. A suitable method is concentration using filtration devices.

13. Store extracts according to your laboratory protocols.

Troubleshooting Guide

This troubleshooting guide may be helpful in solving any problems that may arise. 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**).

Frequently-asked questions	
What is the lowest DNA amount that can be handled?	The low template DNA protocol works well for DNA volumes as low as 10 µL and DNA concentration of 0.1 ng/µL. It is not recommended to use DNA that is of lower DNA amount than 1 ng in total.
Can I use the QIAGEN Lyse & Spin Baskets for separation of my eluate from the FTA punch discs?	It is not recommended to use the Investigator Lyse&Spin Baskets. The separation performance of the QIAshredder baskets is superior for this application.
I need to use the QIAGEN Lyse & Spin Baskets for separation and it is not working as required. What can I do to increase performance?	It is recommended to use the QIAshredder baskets for separation. By using Investigator Lyse&Spin Basket the punched discs may seal the holes of the basket during centrifugation and prevent lysate flow through. However if the use of Investigator Lyse&Spin Basket is required in your laboratory, it is advised to push the punched discs towards the wall of the basket.

Document Revision History

Date	Changes
02/2023	Initial release

Scan QR code for handbook.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual.