



Quick-Start Protocol

March 2026

QIASprint® PowerExtract IRT Application

For use with QIASprint Connect in combination with the QIASprint PowerExtract IRT PrepSet and QIASprint Essential Kit C or QIASprint Essential Kit A

The QIASprint Connect offers the possibility of a modular kit system. The following combinations of QIASprint PowerExtract IRT (Inhibitor Removal Technology) PrepSet and essential kits are recommended below.

For purification of microbial genomic DNA, RNA, or total nucleic acids (depending on the chosen protocol) from sample materials that contain a high level of inhibitory substances such as stool samples, we recommend the following combination:

Kit name	Cat. no.
QIASprint PowerExtract IRT PrepSet (384)	587679
QIASprint Essential Kit C (384)	587009
Optional: QIASprint DNA Removal Set (384)	586409
Optional: RNase A 2.5 mL (100 mg/mL; 7000 units/mL, solution)	19101

For purification of DNA, from inhibitor rich plant sample material such as seed samples, we recommend the following combination:

Kit name	Cat. no.
QIASprint PowerExtract IRT PrepSet (384)	587679
QIASprint Essential Kit A (384)	585009

Note: For plate setup, reagent dispensing scheme, and procedure descriptions for DNA extraction using the QIASprint PowerExtract IRT PrepSet in combination with the QIASprint Essential Kit A, refer to the *QIASprint PowerExtract IRT Application Guide*.

Solution CD2 should be stored at 2–8°C upon arrival. All other reagents and kit components should be stored at room temperature (15–25°C) until the expiry date printed on the box label. For extraction of pure RNA, the QIASprint DNA Removal Set (384) is required. All components of this set should be stored at room temperature, except for DNase, which must be stored at 4°C.

Further information

- *QIASprint PowerExtract IRT Application Guide:* www.qiagen.com/HB-3724
- *TissueLyser Handbook:* www.qiagen.com/HB-0487

- Safety Data Sheets: www.qiagen.com/safety
- Technical assistance: support.qiagen.com

Notes before starting

- Phenol–chloroform–isoamyl alcohol (25:24:1, pH 6.5–8.0) is required for this protocol.
- Ensure that the PowerBead Pro Tubes rotate freely in the centrifuge without rubbing.
- Perform all protocol steps at room temperature.
- Refer to the *QIAasprint PowerExtract IRT Application Guide* for optimal homogenization method.
- Add ethanol (96–100%) to Buffer MW1 concentrates and Isopropanol to Buffer MVL concentrates before use (see bottle label for volume).
- Prepare 80% ethanol for wash steps. Prepare enough solution for a minimum volume of 2 mL per sample when performing DNA or total NA extraction and 3 mL per sample when performing RNA extraction.
- Prepare binding/bead mix by mixing 470 μ L Buffer MVL with 25 μ L MagG Bead Suspension per sample. Use 10% overage calculation when making a master mix for use with multiple samples. Mix well by inversion, then store at room temperature.
- **Optional:** For RNA extraction, prepare DNase I stock enzyme by adding 550 μ L RNase-free Water and mixing gently. Avoid freezing/thawing more than three times and do not vortex. Add the indicated volume of isopropanol to Buffer RDW provided with the QIAasprint DNA Removal Set (384).

Procedure

1. Spin the PowerBead Pro Tube briefly to ensure that the beads have settled at the bottom.
2. Add 50–100 mg of, for example, stool sample; 450 μ L of Solution CD1; 150 μ L of Solution CD2; and 150 μ L of phenol–chloroform–isoamyl alcohol (25:24:1, pH 6.5–8.0) to the PowerBead Pro Tube, and vortex briefly to mix.
3. Secure the PowerBead Pro Tube horizontally on a vortex adapter for 24 tubes (1.5–2 mL) (cat. no. 13000-V1-24). Orient the tube caps to point toward the center of the vortex adapter. Vortex at maximum speed for 10 min.

Note: If using the vortex adapter for more than 12 preps simultaneously, increase the vortex time by 5–10 min. For more information about other bead beating methods, refer to the *QIAasprint PowerExtract IRT Application Guide*.

Note: For disruption in the PowerBead Pro Plates (cat. no. 19311), refer to the *QIAasprint PowerExtract IRT Application Guide*.

4. Centrifuge the PowerBead Pro Tube at 15,000 $\times g$ for 5 min.
5. The supernatant can be used for DNA, total NA, or RNA extraction.
For DNA extraction, add 5 μ L of RNase A (needs to be ordered separately) to each well

before addition of supernatant.
For RNA or total NA extraction, proceed with step 6 without RNase A addition.

Plates preparation

- 6. Transfer up to 420 µL supernatant to the appropriate well of the Binding Plate (as described in Table 1 and Table 2).
Note: Avoid disturbing the pellet when transferring the supernatant. Some residual particles may remain, but these do not affect extraction efficiency.
- 7. Thoroughly mix the binding/bead mixture (Buffer MVL/MagG Bead Suspension) and add 495 µL to each well containing supernatant.
- 8. Prepare the plate as described in the tables below:

Table 1. Plate setup and reagent-dispensing scheme for total nucleic acid or DNA extraction using QIA®sprint Essential Kit C

Plate	Content	Volume (µL)
Binding Plate	For DNA extraction: RNase A	5
	Lysate supernatant	420
	MagG Bead Suspension	25
	Buffer MVL	470
Wash Plate 1	Buffer MW1	800
Wash Plate 2	80% EtOH	800
Wash Plate 3	80% EtOH	800
Elution Plate	RNase-free Water	100

Table 2. Plate setup and reagent-dispensing scheme for RNA extraction using QIA®sprint Essential Kit C

Plate	Content	Volume (µL)
Binding Plate	Lysate supernatant	420
	MagG Bead Suspension	25
	Buffer MVL	470
Wash Plate 1	80% EtOH	800
DNase Plate	Buffer RDW	140
	DNase I	10
Wash Plate 2	Buffer MW1	800
Wash Plate 3	80% EtOH	800
Wash Plate 4	80% EtOH	800
Elution Plate	RNase-free Water	100

Note: For plate setup, reagent dispensing scheme, and procedure descriptions for DNA extraction using the QIA®sprint PowerExtract IRT PrepSet in combination with the QIA®sprint Essential Kit A, refer to the QIA®sprint PowerExtract IRT Application Guide.

Procedure on QIAasprint Connect

- 9. Turn on the QIAasprint Connect instrument and log in.
- 10. Navigate to the Protocols screen with the tab in the upper part of the home screen.
- 11. For isolation of RNA including DNase, locate the desired protocol for the PowerExtract IRT application, and press  and  Run protocol .
For isolation of DNA or total NA, locate the desired protocol for the PowerExtract IRT application, and press  and  Run protocol .
Optional: Enter the run information in the Run details screen. This information will be displayed in the run report.
- 12. Close the hood and press **Confirm** to get to the loading screen.
- 13. With the plate hotels located on the lab bench, insert the plates according to the screen instructions into the hotels.
 - The prep cover must be located in the metal prep cover frame.
 - All prep plates need to sit firmly in their metal frames.
 - The QR codes need to face the user.
- 14. Open the hood and place the hotels on their platforms, taking care not to mix up the left and right hotels.
- 15. **Optional:** If you have heating or cooling steps during your protocol run and the thermal adapter is not already located on the heater-cooler, place the thermal adapter in one of the slots of the thermal adapter platform with the QR code facing the user. The instrument will install it automatically during the run.
- 16. Close the hood and press **Start run** to start the run.
- 17. After the end of the run, remove the plate hotels from the instrument. Store the elution plate safely or use it directly in your downstream applications.

Document Revision History

Date	Description
03/2026	Initial release
	Scan the QR code for handbook. For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual.

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