March 2026

Quick-Start Protocol

QIAsprint® RNA Tissue/Cells Application

For use with QIAsprint Connect

The QIAsprint RNA Tissue/Cells Prep Set (384) (cat. no. 586549) and the QIAsprint Essential Kit B (384) (cat. no. 586009) are shipped at room temperature (15–25°C). All components should be stored dry at room temperature. For optional genomic DNA (gDNA) removal, the QIAsprint DNA Removal Set (384) (cat. no. 586409) is required. All components of this set should also be stored at room temperature, except for DNase, which must be stored at 4°C.

Further information

- *QIAsprint RNA Tissue/Cells Application Guide*: **www.qiagen.com/HB-3720**
- Safety Data Sheets: **www.qiagen.com/safety**
- Technical assistance: **support.qiagen.com**

Notes before starting

- Buffer RLT contains guanidine salt and is therefore not compatible with disinfecting reagents containing bleach.
- If necessary, redissolve any precipitate in Buffer RLT by warming.
- Equilibrate buffers to room temperature.
- Unless stated otherwise, all steps should be performed at room temperature. Work quickly.
- Add ethanol (96–100%) to Buffer RPE concentrates before use (see bottle label for volume).
- If purifying RNA from cell lines rich in RNases or from tissue, we recommend adding either β-mercaptoethanol (β-ME) or 2 M dithiothreitol (DTT) to Buffer RLT before use (10 µL β-ME or 20 µL DTT per 1 mL Buffer RLT). Buffer RLT containing DTT or β-ME can be stored at room temperature for up to 1 month.
- In the following procedure, text marked with ● denotes RNA purification from cells and text marked with ▲ denotes RNA purification from tissue samples.

- **Optional**: If DNA digest is required, add the indicated volume of isopropanol to Buffer RDW provided with the QIAsprint DNA Removal Set (384). For RNA extraction, prepare DNase I stock enzyme by adding 550 µL RNase-free Water to the DNAse I (RNase-free) lyophilized powder and mixing gently. Aliquot the DNAse I stock enzyme in appropriate portions and store at –30°C to –15°C for long-term storage. Avoid freezing/ thawing more than three times. DNase I is sensitive to physical denaturation; do not vortex resuspended DNase I.

Procedure for RNA purification from cells or tissue

1. ● Harvest up to 5 × 10^6 cells as a cell pellet or, for cells grown in a monolayer, aspirate and discard the cell-culture medium from the cell-culture vessel (up to 10 cm diameter). Add 300 µL Buffer RLT to either the pellet or the cell-culture vessel and homogenize. Transfer the lysate to a prep plate (lysate plate).

   Proceed with step 2.

   ▲ Add 300 µL Buffer RLT to up to 50 mg frozen or 25 mg stabilized tissue sample and then disrupt and homogenize. Transfer the lysate to a prep plate (lysate plate).

   Proceed with step 2.

   Note: See Table 1 for disruption and homogenization methods.

Table 1. Amount of starting material and disruption/homogenization method

Sample	Disruption method	Homogenization method	Comments
Animal cells	Addition of lysis buffer	TissueRuptor® II or QIAshredder homogenizer or syringe and needle or vortexing (≤3 × 10^6 cells)	If processing ≤3 × 10^6 cells, lysate can be homogenized by vortexing.
Animal tissues	TissueLyser III or TissueLyser LT	TissueLyser III or TissueLyser LT	TissueLyser III and TissueLyser LT give results comparable to using a rotor–stator homogenizer.
	TissueRuptor II	TissueRuptor II	Simultaneously disrupt and homogenize.
	Mortar and pestle	QIAshredder homogenizer or syringe and needle	The TissueRuptor II usually gives higher yields than mortar and pestle.

2. Prepare a master mix (× + 10% samples) by mixing 75 µL RNase-free Water and 25 µL Proteinase K per sample and mix. Add 100 µL of Proteinase K mix to each sample, mix thoroughly, and incubate for 10 min at room temperature. In the meantime, prepare the worktable as described in the next section.

Plates preparation

3. Add 20 µL MagG Bead Suspension, followed by 400 µL isopropanol.
   Note: Ensure sufficient resuspension of the MagG Bead Suspension before distribution by thorough vortexing.
4. Prepare the plate as described in the table below:

Plate	Content	Volume (µL)
Lysate Plate	Lysate supernatant MagG Bead Suspension Isopropanol 100%	400 20 400
Wash Plate 1	Buffer RPE	800
DNase Plate (optional)	Buffer RDW DNase	140 10
Wash Plate 2	Buffer RPE	500
Elution Plate	RNase-free Water	100

Procedure on QIAsprint Connect

6. Turn on the QIAsprint Connect instrument and log in.
7. Navigate to the Protocols screen with the tab in the upper part of the home screen.
8. For isolation of RNA including DNAse, locate the desired protocol for the RNA tissue/cells application, and press ⋮ and ▶ Run protocol .
   If no DNase digest should be carried out, select the desired protocol for the RNA tissue/cells 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.
9. Close the hood and press **Confirm** to get to the loading screen.
10. 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.
11. Open the hood and place the hotels on their platforms, taking care not to mix up the left and right hotels.

12. **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.
13. Press **Start run** to start the run.
14. 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.

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