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QIAsymphony[®] DSP Circulating DNA Kit Instructions for Use (Handbook)



192

Version 1



For in vitro diagnostic use



937556



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Intended Use

The QIAAsymphony DSP Circulating DNA Kit utilizes magnetic-particle technology for automated isolation and purification of human circulating cell-free DNA from biological specimens.

The product is intended to be used by professional users, such as technicians and physicians who are trained in molecular biological techniques.

The QIAAsymphony DSP Circulating DNA Kit is intended for in vitro diagnostic use.

Summary and Explanation

Circulating cell-free nucleic acids (ccfDNAs) are present in plasma or urine usually as short fragments, <1000 bp (DNA) <1000 nt (RNA), or as small as 20 nt (miRNAs). The concentration of circulating cell-free nucleic acids in biological fluids such as plasma or urine is usually low and varies considerably between individuals. For ccfDNA, the concentration can range from 1–100 ng/ml. The QIAAsymphony DSP circulating DNA system constitutes a ready-to-use in vitro system for the qualitative purification of human circulating cell-free DNA from human plasma and urine using the QIAAsymphony SP instrument.

The QIAAsymphony DSP Circulating DNA Kit provides reagents for fully automated and simultaneous purification of human ccfDNA from biological specimens. A performance characteristic for every blood collection tube has not been established and must be validated by the user. Magnetic-particle technology enables purification of high-quality nucleic acids that are free of proteins, nucleases and other impurities. The purified ccfDNA is compatible with a wide range of downstream applications. The QIAAsymphony SP performs all steps of the purification procedure. Up to 96 samples, in batches of 24, are processed in a single run. Urine samples may require manual sample pretreatment.

Principles of the Procedure

QIAasymplicity technology combines the speed and efficiency of anion exchange-based nucleic acid purification with the convenient handling of magnetic particles (Figure 1, below). The purification procedure is designed to ensure safe and reproducible handling of potentially infectious samples, and comprises 3 steps: bind, wash, and elute (see flowchart, page 5). The user can choose between different sample input volumes.

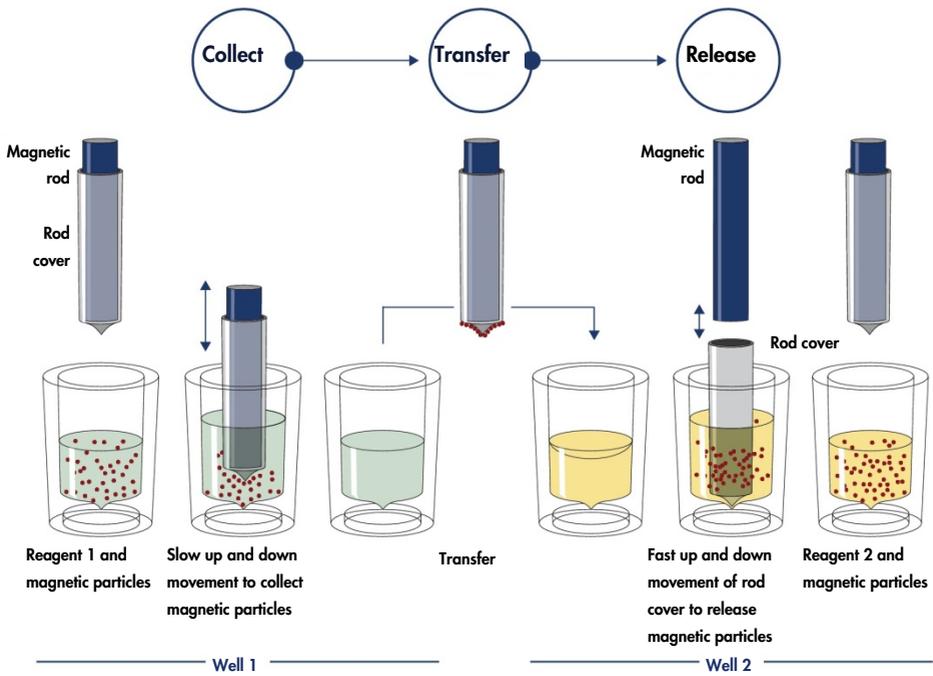
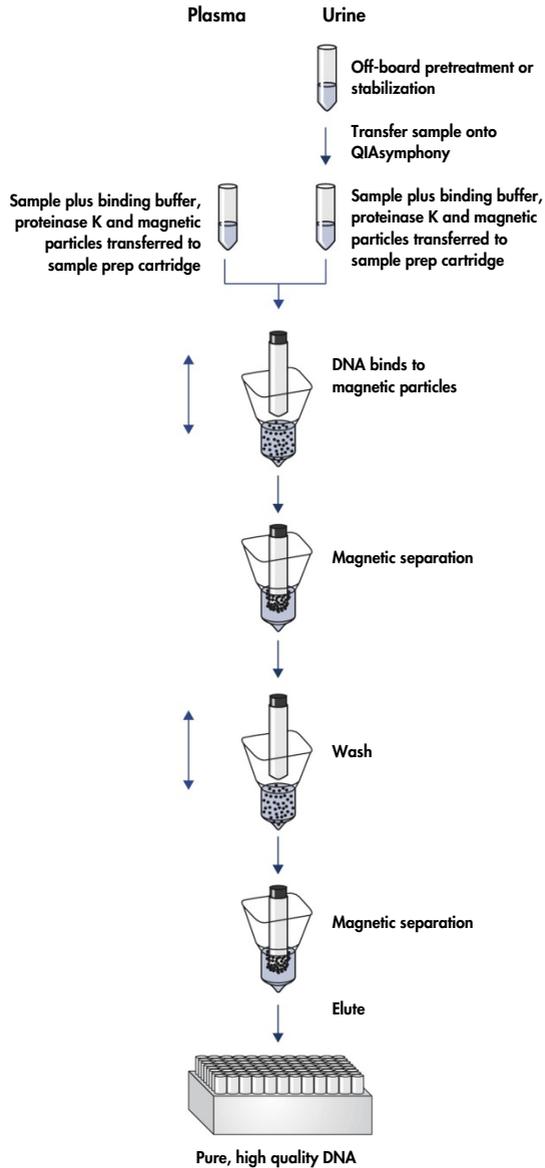


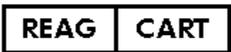
Figure 1. Schematic diagram of the QIAasymplicity SP principle. The QIAasymplicity SP processes a sample containing magnetic particles as follows: A magnetic rod protected by a rod cover enters a well containing the sample and attracts the magnetic particles. The magnetic rod cover is positioned above another well and the magnetic particles are released. These steps are repeated several times during sample processing. The QIAasymplicity SP uses a magnetic head containing an array of 24 magnetic rods, and can therefore process up to 24 samples simultaneously.

QIASymphony DSP Circulating DNA Procedure



Materials Provided

Kit contents

QIAasymphony DSP Circulating DNA Kit		(192)
Catalog number		937556
Number of reactions		192
Identity		Quantity
RC	Reagent cartridge*  †	2
PROTK	QIAGEN Proteinase K	6 x 10 ml
PL	Piercing lid	2
RSS	Reuse Seal Set‡	2
	Instructions for Use (Handbook)	1

* Contains sodium azide as a preservative.

† See page 22 for a list of symbols and definitions.

‡ A Reuse Seal Set contains 8 Reuse Seal Strips.

Materials Required but Not Provided

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) available from the product supplier.

Make sure that instruments have been checked and calibrated according to the manufacturer's recommendations.

- QIASymphony SP (cat.no. 9001297)
- Sample Prep Cartridges, 8-well cartridges (cat. no. 997002)
- 8-Rod Covers (cat. no. 997004)
- Filter-Tips, 200 µl and 1500 µl (cat. nos. 990332 and 997024)
- Sample tubes. For compatible primary and secondary tube formats, see the labware list which can be found under the resource tab of the product page on www.qiagen.com.
- Elution tubes or plates. For compatible elution tube and plate formats, see the labware list which can be found under the resource tab of the product page on www.qiagen.com.
- Phosphate-buffered saline (PBS, may be required for topping up sample volumes)
- Vortexer
- Buffer ATL (for pretreatment of urine samples; cat. no. 939016)
- For additional materials needed for pretreatment and stabilization of urine samples, please refer to the protocol sheet which can be found under the resource tab of the product page on www.qiagen.com.

Warnings and Precautions

For in vitro diagnostic use

Read all instructions carefully before using the kit.

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 PDF format at www.qiagen.com/safety where you can find, view, and print the SDS for each QIAGEN kit and kit component.

WARNING Risk of personal injury



Do not add bleach or acidic solutions directly to the sample preparation waste.

Buffers in the reagent cartridge (RC) contain sodium azide. If buffers of the kit are spilled, clean with suitable laboratory detergent and water. If the spilled liquid contains potentially infectious agents, clean the affected area first with laboratory detergent and water, and then with 1% (v/v) sodium hypochlorite.

The following hazard and precautionary statements apply to components of QIAsymphony DSP Circulating DNA Kit.

MBS3

Contains: Sodium azide. Warning! May be harmful if swallowed. Call a POISON CENTER or doctor/ physician if you feel unwell.

Proteinase K



Contains: Proteinase K. Danger! Causes mild skin irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. Dispose of contents/ container to an approved waste disposal plant. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician. IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Wear respiratory protection.

QSE2



Danger! Causes severe skin burns and eye damage. Dispose of contents/container to an approved waste disposal plant. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician. Store locked up. Wear protective gloves/protective clothing/eye protection/face protection.

QSW9



Contains: ethanol. Danger! Causes serious eye irritation. Highly flammable liquid and vapor. Dispose of contents/ container to an approved waste disposal plant. If eye irritation persists: Get medical advice/ attention. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Store in a well-ventilated place. Keep cool. Wear protective gloves/ protective clothing/ eye protection/ face protection.

Reagent Storage and Handling

The QIAasymphony DSP Circulating DNA Kit should be stored upright at room temperature (15–25°C). The magnetic particles in the reagent cartridges (RC) remain active when stored at this temperature.

Note: The label on the QIAasymphony DSP Circulating DNA Kit box displays the expiration date of the kit. The result file documents the expiration dates for only the reagent cartridge (RC).

Do not use the QIAasymphony DSP Circulating DNA Kit once it has expired.

Kit components

The QIAasymphony DSP Circulating DNA Kit contains ready-to-use proteinase K solution that can be stored at room temperature.

Do not store reagent cartridges (RC) at temperatures below 15°C.

Partially used reagent cartridges (RC) can be stored for a maximum of 4 weeks, enabling cost-efficient reuse of reagents and more flexible sample processing. If a reagent cartridge (RC) is partially used, replace the cover of the trough containing the magnetic particles, and seal the reagent cartridge (RC) with the provided Reuse Seal Strips immediately after the end of the protocol run to avoid evaporation.

To avoid reagent evaporation, the reagent cartridge (RC) should be open for a maximum of 15 hours (including run times) at a maximum environmental temperature of 32°C. Incorrect storage of the kit components can lead to accelerated aging of buffers.

Running batches with low sample numbers (<24) will increase both the time that the reagent cartridge (RC) is open and the required buffer volumes, potentially reducing the total number of sample preparations possible per cartridge.

Avoid exposure of the reagent cartridges (RC) to UV light (e.g., used for decontamination) as exposure may cause accelerated aging of the reagent cartridges (RC) and buffers.

Specimen Collection and Preparation

For more information about the automated procedure (including information about sample tubes that can be used with specific protocols) and specific sample pretreatments, see the relevant protocol sheet which can be found under the resource tab of the product page on www.qiagen.com.

Procedure

Automated purification on QIA Symphony SP

The QIA Symphony SP makes automated sample preparation easy and convenient. Samples, reagents and consumables, and eluates are separated in different drawers. Simply load samples, reagents provided in special cartridges, and preracked consumables in the appropriate drawer before a run. Start the protocol and remove purified DNA from the “Eluate” drawer after processing. Refer to the user manuals supplied with your instrument for operating instructions.

Note: Optional maintenance is not mandatory for instrument function, but is highly recommended to reduce risk of contamination.

The range of protocols available is continually expanding, and additional QIAGEN protocols can be downloaded free of charge at www.qiagen.com/goto/dsphandbooks.

Loading reagent cartridges (RC) into the “Reagents and Consumables” drawer

Reagents for purification of DNA are contained in an innovative reagent cartridge (RC) (Figure 2, page 13). Each trough of the reagent cartridge (RC) contains a particular reagent, such as magnetic particles, binding buffer, wash buffer, or elution buffer. Partially used reagent cartridges (RC) can be reclosed with Reuse Seal Strips (RSS) for later reuse, which avoids generation of waste due to leftover reagents at the end of the purification procedure.



Figure 2. QIAasympphony reagent cartridge (RC). The reagent cartridge (RC) contains all reagents required for the protocol run.

Before starting the procedure, make sure that the magnetic particles are fully resuspended. Remove the magnetic-particle trough from the reagent cartridge frame, vortex it vigorously for at least 3 minutes then replace it in the reagent cartridge frame before the first use.

Note: Magnetic particles can change color. This has no influence on performance.

Place the reagent cartridge (RC) into the reagent cartridge holder. Before using a reagent cartridge (RC) for the first time, place the piercing lid (PL) on top of the reagent cartridge (RC) (Figure 2, above).

Note: The piercing lid (PL) is sharp. Take care when placing it onto the reagent cartridge (RC). Make sure to place the piercing lid (PL) onto the reagent cartridge (RC) in the correct orientation.

After the magnetic-particle trough cover is removed, the reagent cartridge (RC) is subsequently loaded into the “Reagents and Consumables” drawer.

Partially used reagent cartridges (RC) can be stored until needed again (see “Reagent Storage and Handling” page 10).

Note: Proteinase K must be added according to information given in the protocol sheet under the resource tab of the product page on www.qiagen.com.

Note: Make sure that reagent cartridges, magnetic-particle troughs and Proteinase K bottles are not interchanged between different kit lots.

Loading plastic ware into the “Reagents and Consumables” drawer

Sample prep cartridges, 8-Rod Covers (both preracked in unit boxes), and disposable filter-tips (200 µl tips provided in blue racks, 1500 µl tips provided in black racks) are loaded into the “Reagents and Consumables” drawer.

Note: Make sure that the covers of the unit boxes are removed before loading the unit boxes into the “Reagents and Consumables” drawer.

Note: Tips have filters to help prevent cross-contamination.

Tip rack slots on the QIAasymphony SP worktable can be filled with either type of tip rack. The QIAasymphony SP will identify the type of tips loaded during the inventory scan.

Note: Do not refill tip racks or unit boxes for sample prep cartridges or 8-Rod Covers before starting another protocol run. The QIAasymphony SP can use partially used tip racks and unit boxes.

For the consumables required, see the relevant protocol sheet which can be found under the resource tab of the product page on www.qiagen.com. For plasticware ordering information, see page 29.

Loading the “Waste” drawer

Sample prep cartridges and 8-Rod Covers used during a run are re-racked in empty unit boxes in the “Waste” drawer. Make sure that the “Waste” drawer contains sufficient empty unit boxes for plastic waste generated during the protocol run.

Note: Make sure that the covers of the unit boxes are removed before loading the unit boxes into the “Waste” drawer. If you are using 8-Rod Cover boxes for collecting used sample prep cartridges and 8-Rod Covers, ensure that the box spacer has been removed.

A bag for used filter-tips must be attached to the front side of the “Waste” drawer.

Note: The presence of a tip disposal bag is not checked by the system. Make sure that the tip disposal bag is properly attached before starting a protocol run. For more information, see the user manuals provided with your instrument. Empty the tip bag after a maximum of 96 samples have been processed to avoid a tip jam.

A waste container collects liquid waste generated during the purification procedure. The “Waste” drawer can only be closed if the waste container is in place. Dispose of the liquid waste according to your local safety and environment regulations. Do not autoclave the filled waste bottle. Empty the waste bottle after a maximum of 96 samples have been processed.

Loading the “Eluate” drawer

Load the required elution rack into the “Eluate” drawer. As long-term storage of eluates in the “Eluate” drawer may lead to evaporation or condensation, the cooling position must be used. Only use “Elution slot 1” with the corresponding cooling adapter.

Inventory scan

Before starting a run, the instrument checks that sufficient consumables for the queued batch(es) have been loaded into the corresponding drawers.

Preparation of sample material

QIASymphony DSP Circulating DNA Kits are designed for automated purification of circulating cell-free DNA from human plasma and urine (Table 1, page 17).

Prevent formation of foam in or on the samples. Foam on samples can lead to pipetting of wrong sample volume. Depending on the starting material, sample pretreatment may be required. Samples should be equilibrated to room temperature (15–25°C) before starting the run.

For more information about the automated procedure (including information about sample tubes that can be used with specific protocols) and specific sample pretreatments, see the relevant protocol sheet which can be found under the resource tab of the product page on **www.qiagen.com**.

Storing DNA

After sample preparation, eluates can be stored at 2–8°C for up to 1 month. For long term storage eluates can be stored at –20°C or at –80°C. Frozen eluates must not be thawed more than three times.

Protocol overview

Table 1. Protocol overview

Sample	Sample volume (µl)	Elution volume (µl)	QIAsymphony SP protocol
Plasma, urine	2000	60	circDNA_2000_DSP
	4000	60	circDNA_4000_DSP

Important points before starting

- Make sure that you are familiar with operating the QIAsymphony SP. Refer to the user manuals supplied with your instrument for operating instructions.
- Optional maintenance is not mandatory for instrument function, but is highly recommended to reduce risk of contamination.
- Before beginning the procedure, read “Principles of the Procedure”, page 4.
- Make sure that you are familiar with the protocol sheet corresponding to the procedure you want to use. (Protocol sheets can be found under the resource tab of the product page on www.qiagen.com).
- Avoid vigorous shaking of the reagent cartridge (RC) otherwise foam may be generated, which can lead to liquid-level detection problems.
- Before starting a pretreatment that requires Buffer ATL, check whether precipitate has formed in Buffer ATL. If necessary, dissolve precipitate by heating at 70°C with gentle agitation in a water bath. Aspirate bubbles from the surface of Buffer ATL.

Things to do before starting

- Before starting the procedure, make sure that the magnetic particles are fully resuspended. Vortex the trough containing the magnetic particles vigorously for at least 3 minutes before first use.

- Make sure that the piercing lid is placed on the reagent cartridge and the lid of the magnetic-particle trough has been removed or, if using a partially used reagent cartridge, make sure the Reuse Seal Strips have been removed.
- Proteinase K is not included in the reagent cartridge but has to be provided by the user (sample drawer, slot A, position 1 and/or 2). Make sure that correct proteinase K volume is available. (For detailed information, see the protocol sheet which can be found under the resource tab of the product page on www.qiagen.com).
- If samples are bar coded, orient samples in the tube carrier so that the bar codes face the bar code reader at the left side of the QIASymphony SP.
- For information about sample tubes compatible with a certain protocol, see the corresponding labware list which can be found under the resource tab of the product page on www.qiagen.com.
- For information about minimum sample volumes for secondary tubes, see the corresponding labware list which can be found under the resource tab of the product page on www.qiagen.com.

Protocol: Purification of circulating cell-free DNA

The following is a general protocol for using QIASymphony DSP Kits. Detailed information for each protocol, including volumes and tubes, is provided in protocol sheets which can be found under the resource tab of the product page on www.qiagen.com.

1. Close all drawers and the hood.
2. Power ON the QIASymphony SP, and wait until the **Sample Preparation** screen appears and the initialization procedure has finished.

The power switch is located at the bottom, left corner of the QIASymphony SP.

3. Log on to the instrument.

4. Load the required elution rack into the “Eluate” drawer.

Do not load a 96-well plate onto “Elution slot 4”. “Elution slot 1”, with the corresponding cooling adapter, must be used.

When using a 96-well plate, make sure that the plate is in the correct orientation, as incorrect placement may cause sample mix-up in downstream analysis.

When using the Elution Microtubes CL rack, remove the bottom by twisting the rack until the bottom comes off.

5. Make sure the “Waste” drawer is properly prepared and perform an inventory scan of the “Waste” drawer, including the tip chute and liquid waste. Replace the tip disposal bag if necessary.
6. Load the required reagent cartridge(s) and consumables into the “Reagents and Consumables” drawer.
7. Perform an inventory scan of the “Reagents and Consumables” drawer.
8. Place the samples into the appropriate sample carrier, and load them into the “Sample” drawer.
9. Using the touchscreen, enter the required information for each batch of samples and for proteinase K to be processed.

Enter the following information:

- Sample information (depending on sample racks used)
- Protocol to be run (Assay Control Set)
- Elution volume and output position

After information about the batch has been entered, the status changes from **LOADED** to **QUEUED**. As soon as one batch is queued the **Run** button appears.

10. Place the proteinase K into the appropriate sample carrier on position 1 and 2, and load them into slot A of the “Sample” drawer.
11. Define the proteinase K by pressing the **IC** button.

12. Press the **Run** button to start the purification procedure.

All processing steps are fully automated. At the end of the protocol run, the status of the batch changes from **RUNNING** to **COMPLETED**.

13. Retrieve the elution rack containing the purified nucleic acids from the “Eluate” drawer.

14. The DNA is ready to use or can be stored at 2–8°C, –20°C, or –80°C.

We recommend removing the eluate plate from the “Eluate” drawer immediately after the run has finished. Depending on temperature and humidity, elution plates left in the QIASymphony SP after the run is completed may experience condensation or evaporation.

In general, magnetic particles are not carried over into eluates. If carryover does occur, magnetic particles in eluates will not affect most downstream applications.

If magnetic particles need to be removed before performing downstream applications, tubes or plates containing eluates should first be placed in a suitable magnet and the eluates transferred to a clean tube (see “Appendix: Quantification of circulating cell-free DNA”, page 28).

Result files are generated for each elution plate.

15. If a reagent cartridge is only partially used, seal it with the provided Reuse Seal Strips after the end of the protocol run to avoid evaporation.

Note: For more information about storage of partially used reagent cartridges (RC), see “Reagent Storage and Handling”, page 10.

16. Discard used sample tubes and waste according to your local safety regulations.

See “Warnings and Precautions”, page 8, for safety information.

17. Clean the QIASymphony SP.

Follow the maintenance instructions in the user manuals supplied with your instrument. Make sure to clean the tip guards regularly to minimize the risk of cross-contamination.

18. Close the instrument drawers and power OFF the QIASymphony SP.

Quality Control

In accordance with QIAGEN's ISO-certified Quality Management System, each lot of QIASymphony DSP Circulating DNA Kit is tested against predetermined specifications to ensure consistent product quality.

Limitations

System performance has been established in performance evaluation studies purifying human circulating cell-free DNA from human plasma and urine.

It is the user's responsibility to validate system performance for any procedures used in their laboratory that are not covered by the QIAGEN performance evaluation studies.

To minimize the risk of a negative impact on the diagnostic results, adequate controls for downstream applications should be used. For further validation, the guidelines of the International Conference on Harmonisation of Technical Requirements (ICH) in *ICH Q2 (R1) Validation of Analytical Procedures: Text and Methodology* are recommended.

Any diagnostic results that are generated must be interpreted in conjunction with other clinical or laboratory findings.

Symbols

The symbols in the following table include symbols used in these instructions for use.



<N>

Contains reagents sufficient for <N> reactions



Use by



In vitro diagnostic medical device



Catalog number



Lot number



Material number (i.e., component labeling)



Components (i.e., a list of what is included)



Contains (contents)



Number (i.e., vials, bottles)



Global Trade Item Number

Rn

R is for revision of the Instructions for Use (Handbook) and n is the revision number



Temperature limitation



Manufacturer



Consult instructions for use



Caution



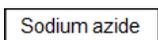
Proteinase K



Well number (i.e., reagent cartridge well)



Reagent cartridge



Sodium azide

Troubleshooting Guide

This troubleshooting guide may be helpful in solving any problems that may arise. For contact information, see back cover or visit www.qiagen.com.

Comments and suggestions

General handling

Error message displayed on the touchscreen	If an error message is displayed during a protocol, refer to the user manuals supplied with your instrument.
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Precipitate in reagent trough of opened cartridge of the QIAasyphony DSP kit

- | | |
|--------------------------------------|---|
| a) Buffer evaporation | Excessive evaporation may lead to increased salt concentration in buffers. Discard reagent cartridge (RC). Make sure to seal buffer troughs of a partially used reagent cartridge (RC) with Reuse Seal Strips when not being used for purification. |
| b) Storage of reagent cartridge (RC) | Storage of reagent cartridge (RC) below 15°C may lead to formation of precipitates. |

Low yield of DNA

- | | |
|---|--|
| a) Magnetic particles were not completely resuspended | Before starting the procedure, ensure that the magnetic particles are fully resuspended. Vortex for at least 3 minutes before use. |
|---|--|

Comments and suggestions

- b) Clogging of pipet tip due to insoluble material
- Insoluble material was not removed from the sample prior to starting the QIAasympphony purification procedure.
- If required, use pretreatment procedures as described in the corresponding protocol sheet which can be found under the resource tab of the product page on **www.qiagen.com**.
- c) Sample material contains low concentration of circulating cell-free DNA
- Due to very low amounts of circulating cell-free DNA in sample material, it is possible not to detect DNA concentration depending on the quantification method used.
- Use of sensitive qPCR is recommended to check DNA concentration in eluates.
- d) Incomplete reclosing of reagent cartridge
- Exchange with surrounding air may lead to reduced stability of buffers leading to reduced efficiency of ccfDNA extraction with a partially used reagent cartridge (RC). Make sure to carefully seal buffer troughs of a partially used reagent cartridge with Reuse Seal Strips when not being used for purification.

Comments and suggestions

- e) Rapid degradation of circulating cell-free DNA in non-stabilized urine sample
- Due to rapid degradation of circulating cell-free DNA in non-stabilized urine samples after sample collection, it is possible to detect no/low DNA concentration in eluates. It is recommended to stabilize urine sample as described in the corresponding protocol sheet.
- Alternatively, subject urine samples immediately after collection and centrifugation to ATL-pretreatment and subsequent DNA extraction on the instrument as described in the corresponding protocol sheet.

No/incomplete sample transfer

- a) Incorrect sample volume is loaded
- If less than 2.4 ml sample volume and 4.5 ml sample volume, respectively, is loaded, there is an increased risk of unclear flagging of the sample, or no transfer of the sample (invalid flagging).
- Load the correct sample volume as described in the corresponding labware list. If insufficient sample is available, add PBS to the sample up to the required sample volume before loading the sample.
- b) Bubbles and/or foam in sample tube
- Bubbles or foam in the sample and/or sample input tube may result in false liquid level detection and subsequent incomplete sample transfer. Remove bubbles from the sample tube.

Comments and suggestions

Bubbles on tips visible during instrument run

Use of FIX labware in combination with reduced sample input volume

If less than 2.1 ml sample volume and 4.1 ml sample volume, respectively, is loaded using FIX labware, there is an increased risk of reduced transfer of sample volume which is not detected by the instrument. This may result in bubble formation during sample transfer and/or the subsequent binding step.

Load the correct sample volume as described in the corresponding labware list when using FIX labware. If insufficient sample is available, add PBS to the sample up to the required sample volume before loading the sample.

Appendix: Quantification of circulating cell-free DNA

Because of very low concentrations of circulating cell-free DNA in sample materials, measurement of DNA with a spectrophotometer is not recommended. For determination of concentration of circulating cell-free DNA, a sensitive and accurate fluorescence-based quantitation assay or a real-time PCR assay should be used.

If magnetic particles need to be removed, apply the tube containing the DNA to a suitable magnetic separator (e.g., QIAGEN 12-Tube Magnet, cat. no. 36912) until the magnetic particles are separated.

If DNA is in microplates, apply the microplate to a suitable magnetic separator (e.g., QIAGEN 96-Well Magnet Type A, cat. no. 36915) until the magnetic particles are separated. If a suitable magnetic separator is not available, centrifuge the tube containing the DNA for 1 minute at full speed in a microcentrifuge to pellet any remaining magnetic particles.

Ordering Information

Product	Contents	Cat. no.
QIAsymphony DSP Circulating DNA Kit (192)	Includes 2 reagent cartridges and Proteinase K Tubes and accessories	937556
QIAsymphony SP		
QIAsymphony SP	QIAsymphony sample prep module, 1 year warranty on parts and labor	9001297
Related products		
Buffer ATL (4 x 50 ml)	4 x 50 ml Buffer ATL for pretreatment of urine samples	939016
Proteinase K (10 ml)	1 x 10 ml bottle	1105392
Reagent Cartridge Holder (2)	Reagent cartridge holder for use with the QIAsymphony SP	997008
Cooling Adapter, 2 ml, v2, Qsym	Cooling adapter for 2 ml screw-cap tubes. For use in the QIAsymphony "Eluate" drawer	9020674
Cooling Adapter, EMT, v2, Qsym	Cooling adapter for EMT racks. For use in the QIAsymphony "Eluate" drawer	9020730
Cooling Adapter, Snap-Cap Microtube QIAsymphony, Qsym	Cooling adapter for 1.5 ml Eppendorf® LoBind Snap Cap Safe-Lock tubes. For use in the QIAsymphony "Eluate" drawer	9020731
Sample Prep Cartridges, 8-well (336)	8-well sample prep cartridges for use with the QIAsymphony SP	997002
8-Rod Covers (144)	8-Rod Covers for use with the QIAsymphony SP	997004

Product	Contents	Cat. no.
Filter-Tips, 200 µl (1024)	Disposable Filter-Tips, racked; (8 x 128). For use with the QIAcube® and the QIAasympHony SP/AS	990332
Filter-Tips, 1500 µl (1024)	Disposable Filter-Tips, racked; (8 x 128). For use with the QIAasympHony SP/AS	997024
Tip Disposal Bags (15)	Tip disposal bags for use with the QIAasympHony SP	9013395
12-Tube Magnet	Magnet for separating magnetic particles in 12 x 1.5 ml or 2 ml tubes	36912
96-Well Magnet Type A	Magnet for separating magnetic particles in wells of 96-well plates, 2 x 96-Well Microplates FB	36915
Reuse Seal Set (20)	Reuse seal sets for sealing partly used QIAasympHony reagent cartridges	997006
Elution Microtubes CL (24 x 96)	Non-sterile polypropylene tubes (0.85 ml maximum capacity, less than 0.7 ml storage capacity, 0.4 ml elution capacity); 2304 in racks of 96; includes cap strips	19588

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.

The purchase of this product allows the purchaser to use it for the performance of diagnostic services for human in vitro diagnostics. No general patent or other license of any kind other than this specific right of use from purchase is granted hereby.

Trademarks: QIAGEN®, Sample to Insight®, QIASymphony®, QIAcube® (QIAGEN Group); Eppendorf® (Eppendorf AG).

Registered names, trademarks, etc., used in this document, even when not specifically marked as such, are not to be considered unprotected by law.

Limited License Agreement for QIASymphony DSP Circulating DNA Kit

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