February 2019

QIAsymphony® SP Protocol Sheet

Reference_200_V6 protocol

This document is the Reference_200_V6 *QIAsymphony SP Protocol Sheet*, R1, for QIAsymphony DNA Investigator® Kit.

General information

The QIAsymphony DNA Investigator Kit is intended for molecular biology applications. This product is not intended for the diagnosis, prevention, or treatment of a disease.

These protocols are for purification of total DNA from samples encountered in forensic, human identity, and biosecurity applications using the QIAsymphony SP and the QIAsymphony DNA Investigator Kit.

Since the type of samples that can be processed using the QIAsymphony DNA Investigator Kit can vary greatly, there is also a variety of different pretreatments, optimized for specific sample types. For the REF_200_V6 protocol, samples are lysed under denaturing conditions in the presence of proteinase K and Buffer ATL in a total volume of 200 µl.

Note: It is the user's responsibility to validate performance using this combination for any procedures used in their laboratory.

Kit	QIAsymphony DNA Investigator Kit
Sample material	FTA and Guthrie cards, blood and saliva (10–50 µl)
Protocol name	REF_200_V6
Default Assay Control Set	ACS_REF_200_V6
Editable	Elution volume: 100 µl, 150 µl, 200 µl, 400 µl Elution solution: Buffer ATE
Required software version	Version 5.0 or higher

Materials required but not provided

For all sample types

- Vortexer
- Thermomixer or shaker-incubator

For FTA and Guthrie cards

- Manual paper punch, Harris UNI-CORE, 1.25 mm (cat. no. 159330), 3.00 mm (cat. no. 159331), or equivalent paper punch with cutting mat
- Filter paper (e.g., QIAcard® FTA Spots, see page 28 in the *QIAsymphony DNA Investigator Handbook* for ordering information)

"Sample" drawer

Sample type	FTA and Guthrie cards, blood and saliva (10–50 µl)
Sample volume	200 µl
Primary sample tubes	See **www.qiagen.com/goto/qsdnainvestigator** for more information
Secondary sample tubes	See **www.qiagen.com/goto/qsdnainvestigator** for more information
Inserts	See **www.qiagen.com/goto/qsdnainvestigator** for more information
Other	n/a

n/a = not applicable.

"Reagents and Consumables" drawer

Position A1 and/or A2	Reagent cartridge (RC)
Position B1	n/a
Tip rack holder 1–17	Disposable filter-tips, 200 µl
Tip rack holder 1–17	Disposable filter-tips, 1500 µl
Unit box holder 1–4	Unit boxes containing sample prep cartridges
Unit box holder 1–4	Unit boxes containing 8-Rod Covers

n/a = not applicable.

"Waste" drawer

Unit box holder 1–4	Empty unit boxes
Waste bag holder	Waste bag
Liquid waste bottle holder	Liquid waste bottle

Eluate" drawer

Elution rack (we recommend using slot 1, cooling position)	See **www.qiagen.com/goto/qsdnainvestigator** for more information

“Required plasticware

	One batch, 24 samples*	Four batches, 96 samples*
Disposable filter-tips, 200 µl†‡	26	98
Disposable filter-tips, 1500 µl†‡	56	200
Sample prep cartridges§	15	60
8-Rod Covers¶	3	12

* Use of less than 24 samples per batch decreases the number of disposable filter-tips required per run.
† There are 32 filter-tips/tip rack.
‡ Number of required filter-tips includes filter-tips for 1 inventory scan per reagent cartridge.
§ There are 28 sample prep cartridges/unit box.
¶ There are twelve 8-Rod Covers/unit box.

Note: Numbers of filter-tips given may differ from the numbers displayed in the touchscreen depending on settings, for example, number of internal controls used per batch.

Preparation of sample material

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

Important points before starting

- QIAsymphony magnetic particles copurify RNA and DNA if both are present in the sample. If RNA-free DNA is required, add RNase A to the sample in the step indicated in the respective pretreatment protocol.
- Before beginning the procedure, read “Important Notes”, page 12 of the *QIAsymphony DNA Investigator Handbook*.

FTA and Guthrie Cards

This protocol is for isolation of total (genomic and mitochondrial) DNA from whole blood, saliva, or buccal cells dried and immobilized on FTA cards, Guthrie cards, or similar collection devices. The pretreatment includes lysis of samples using proteinase K.

Things to do before starting

- Before using Buffer ATL, check that it does not contain a white precipitate. If necessary, incubate for 30 minutes at 70°C with gentle agitation.
- Set a thermomixer or shaker–incubator to 56°C for use in step 4.

Pretreatment protocol for FTA and Guthrie cards

1. Cut punches from a dried spot with a single-hole paper punch. Place 1 x 1.2 mm, 2 x 1.2 mm, or 1 x 3 mm diameter card punch(es) into a 2 ml microcentrifuge tube (not provided).
2. Add 180 µl Buffer ATL.
3. Add 20 µl proteinase K, and mix by vortexing.
4. Place the tube in a thermomixer or heated orbital incubator, and incubate with shaking at 900 rpm at 56°C for 15 min.
5. Carefully transfer the lysate to sample tubes or plates that are compatible with the sample rack of the QIAsymphony SP.

   See **www.qiagen.com/QIAsymphony/Resources** for a full list of compatible vessels. We recommend using 2 ml tubes (e.g., Sarstedt, cat. no. 72.693 or 72.608) or S-Blocks (cat. no. 19585).

   Note: Do not transfer any solid material as this may clog the tips during automated DNA purification.
6. Continue with the protocol "DNA Purification from Casework and Reference Samples" (page 19 in the *QIAsymphony DNA Investigator Handbook*).

Whole blood and saliva (10–50 µl)

This protocol is designed for isolation of total (genomic and mitochondrial) DNA from up to 50 µl of whole blood treated with EDTA,* citrate,* or heparin-based* anticoagulants or up to 50 µl of saliva. The pretreatment includes lysis of samples using proteinase K.

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

Things to do before starting

- Equilibrate samples to room temperature (15–25°C).
- Set a thermomixer or heated orbital incubator to 56°C for use in step 4.
- If Buffer ATL contains precipitates, dissolve by heating to 70°C with gentle agitation.

Pretreatment protocol for whole blood and saliva

1. Pipet up to 50 µl blood or saliva into a sample tube or plate that is compatible with the sample rack of the QIAsymphony SP.

   See **www.qiagen.com/QIAsymphony/Resources** for a full list of compatible vessels. We recommend using 2 ml tubes (e.g., Sarstedt, cat. no. 72.693 or 72.608) or S-Blocks (cat. no. 19585).
2. Add Buffer ATL to a final volume of 180 µl.
3. Add 20 µl proteinase K, and mix by vortexing.
4. Place the tube or plate into a thermomixer or heated orbital incubator and incubate with shaking at 900 rpm at 56°C for 10 min.
5. Continue with the protocol "DNA Purification from Casework and Reference Samples" (page 19 in the *QIAsymphony DNA Investigator Handbook*).

Revision history

Document revision history	
R1 02/2019	Update for QIAsymphony Software version 5.0

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