February 2019

QIAsymphony® SP Protocol Sheet

Casework_1000_HE_V9 and Casework_1000_H2O_HE_V9 protocol

This document is the Casework_1000_HE_V9 and Casework_1000_H2O_HE_V9 *QIAsymphony SP Protocol Sheet*, R1, for QIAsymphony DNA Investigator® Kit.

Sample to Insight

QIAGEN

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 CW_1000_HE_V9 and CW_1000_H2O_HE_V9 protocol, samples are lysed under denaturing conditions in the presence of proteinase K and Buffer ATL in a total volume of 1000 µl.

The Elution can be performed either with the buffer ATE (CW_1000_HE_V9) or with the buffer AVE (CW_1000_H2O_HE_V9).

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

CW_1000_H2O_HE_V9

Kit	QIAsymphony DNA Investigator Kit
Sample material	Large-volume forensic samples
Protocol name	CW_1000_H2O_HE_V9
Default Assay Control Set	ACS_CW_1000_H2O_HE_V9
Elution solution	Buffer AVE
Elution volume	30 µl, 40 µl, 50 µl, 60 µl, 70 µl, 80 µl
Required software version	Version 5.0 or higher

CW_1000_HE_V9

Kit	QIAsymphony DNA Investigator Kit
Sample material	Large-volume forensic samples
Protocol name	CW_1000_HE_V9
Default Assay Control Set	ACS_CW_1000_HE_V9
Elution solution	Buffer ATE
Elution volume	30 µl, 40 µl, 50 µl, 60 µl, 70 µl, 80 µl
Required software version	Version 5.0 or higher

Materials required but not provided

For all sample types

- TopElute Fluid (60 ml) (cat. no. 1055628)
- Vortexer
- Thermomixer or shaker-incubator

"Sample" drawer

Sample type	Large-volume forensic samples
Sample volume	1000 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	TopElute Fluid
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

"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[†‡]	4	16
Disposable filter-tips, 1500 µl[†‡]	80	320
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 safety data sheets (SDSs), 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*.

Large-volume samples

This protocol is for isolation of total (genomic and mitochondrial) DNA from forensic samples that require increased volumes for thorough lysis, e.g., diffuse stains on fabric or paper. 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.
- If processing semen samples, prepare an aqueous 1 M DTT* stock solution. Store aliquots at –20°C. Thaw immediately before use.

Pretreatment protocol for large-volume samples

1. Transfer samples to a 2 ml microcentrifuge tube (not provided). Large samples can be cut into smaller pieces to fit more conveniently.
2. Add 960 µl Buffer ATL.
3. Add 40 µl proteinase K, and mix by vortexing. If processing semen samples, add 40 µl 1 M DTT.
4. Place the tube in a thermomixer or heated orbital incubator, and incubate with shaking at 900 rpm at 56°C for at least 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.

   Lysate remaining in solid sample material (e.g., denim) can be harvested by transferring the material to a QIAshredder spin column (not supplied) and centrifuging at full speed for 2 min in a microcentrifuge. Transfer the flow-through to the sample tube or plate.

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

6. 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

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.

HB-0986-S52-001 02/2019