
February 2019

QIAsymphony[®] SP Protocol Sheet

Casework_1000_ADV_HE_V10 protocol

This document is the Casework_1000_ADV_HE_V10 *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 CW_1000_ADV_HE_V10 protocol, samples are lysed under denaturing conditions in the presence of proteinase K and Buffer ATL in a total volume of 1000 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 | Large-volume forensic samples |
| Protocol name | CW_1000_ADV_HE_V10 |
| Default Assay Control Set | ACS_CW_1000_ADV_HE_V10 |
| Editable | 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

- QIAasymphony 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 *QIAasymphony 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.

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.

5. Continue with the protocol “DNA Purification from Casework and Reference Samples” (page 19 in the *QIASymphony DNA Investigator Handbook*).

* 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.

Revision history

| Document revision history | |
|---------------------------|-------------|
| R1 02/2019 | New release |

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