QIAsymphony SP Protocol Sheet

DNA_Blood_400_V6_DSP protocol

General information

For in vitro diagnostic use.

This protocol is for purification of total genomic and mitochondrial DNA from fresh or frozen human whole blood using the QIAsymphony® SP and the QIAsymphony DSP DNA Midi Kit.

Kit	QIAsymphony DSP DNA Midi Kit (cat. no. 937255)
Sample material	Human whole blood (EDTA, citrate, or heparin anti-coagulated)
Protocol name	DNA_Blood_400_V6_DSP
Default Assay Control Set	ACS_Blood_400_V6_DSP
Editable	Elution volume: 100 µl, 200 µl, 400 µl
Required software version	Version 4.0

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"Sample" drawer

Sample type	Human whole blood (EDTA, citrate, or heparin anti-coagulated)
Sample volume	Depends on type of sample tube used; for more information see www.qiagen.com/goto/dsphandbooks.
Primary sample tubes	For more information see www.qiagen.com/goto/dsphandbooks.
Secondary sample tubes	For more information see www.qiagen.com/goto/dsphandbooks.
Inserts	Depends on type of sample tube used; for more information see www.qiagen.com/goto/dsphandbooks.

"Reagents and Consumables" drawer

Position A1 and/or A2	Reagent cartridge
Position B1	n/a
Tip rack holder 1–17	Disposable filter-tips, 200 µl or 1500 µl
Unit box holder 1–4	Unit boxes containing sample prep cartridges or 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	Empty liquid waste bottle

"Eluate" drawer

Elution rack (we recommend using slot 1, cooling position)	For more information, see www.qiagen.com/goto/dsphandbooks.

Required plasticware

	One batch, 24 samples*	Two batches, 48 samples*	Three batches, 72 samples*	Four batches, 96 samples*
Disposable filter-tips, 200 µl†‡	4	4	4	8
Disposable filter-tips, 1500 µl†‡	110	212	314	424
Sample prep cartridges§	18	36	54	72
8-Rod Covers¶	3	6	9	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. We recommend loading the maximum possible number of tips.

Elution volume

The elution volume is selected in the touchscreen. Depending on the sample type and DNA content, the final eluate volume may vary by up to 15 µl less than the selected volume. Due to the fact that the eluate volume may vary, we recommend checking the actual eluate volume when using an automated assay setup system that does not verify the eluate volume prior to transfer. Elution in lower volumes increases the final DNA concentration, but slightly reduces the yield. We recommend using an elution volume appropriate for the intended downstream application.

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 point before starting

- QIAsymphony magnetic particles may copurify RNA if it is present in the sample. In order to minimize RNA content in the sample, add RNase A to the sample before starting the procedure. The final RNase A concentration should be 2 mg/ml.

Human whole blood

Whole blood samples treated with EDTA, citrate, or heparin can be used, and may be either fresh or frozen. If using fresh blood samples in primary tubes, mix the blood samples thoroughly (e.g., by inverting the tubes several times) before loading them onto the QIAsymphony SP. Frozen samples should be thawed quickly in a 37°C water bath with mild agitation to ensure thorough mixing and then equilibrated to room temperature (15–25°C) before beginning the procedure. To ensure reliable sample transfer, avoid generating foam in sample tubes. Try to avoid blood clots in the samples and, if necessary, transfer the sample without clots to a fresh tube.

Yield and quality of the purified DNA depend on the storage conditions of the blood. Fresher blood samples may yield better results. For short-term storage of up to 10 days, collect blood in tubes containing EDTA as an anticoagulant and store at 2–8°C. However, for applications requiring maximum fragment size, such as southern blotting, we recommend storage at 2–8°C for up to 3 days only, as low levels of DNA degradation will occur after this time. For long-term storage (over 10 days), collect blood in tubes containing a standard anticoagulant (preferably EDTA, if high-molecular-weight DNA is required), and store at –20°C or –70°C.

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.

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