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December 2017

# QIAasymphony<sup>®</sup> SP Protocol Sheet

## Cellfree500\_V5\_DSP protocol

This document is the Cellfree500\_V5\_DSP *QIAasymphony SP Protocol Sheet*, R2, for QIAasymphony DSP Virus/Pathogen Midi Kit, version 1.

## General information

The QIAasymphony DSP Virus/Pathogen Kit is intended for in vitro diagnostic use.

<b>Kit</b>	QIAasymphony DSP Virus/Pathogen Midi Kit
<b>Sample material*</b>	Plasma, serum, and CSF
<b>Protocol name</b>	Cellfree500_V5_DSP
<b>Default Assay Control Set</b>	ACS_Cellfree500_V5_DSP_default_IC
<b>Editable</b>	Elate volume: 60 µl, 85 µl, 110 µl
<b>Required software version</b>	Version 4.0 or higher

For additional information see "Preparation of sample material" and "Limitations", page 5.

## "Sample" drawer

<b>Sample type</b>	Plasma, serum, and CSF
<b>Sample volume</b>	Depends on type of sample tube used; for more information see <a href="http://www.qiagen.com/goto/dsphandbooks">www.qiagen.com/goto/dsphandbooks</a>
<b>Primary sample tubes</b>	See <a href="http://www.qiagen.com/goto/dsphandbooks">www.qiagen.com/goto/dsphandbooks</a> for more information
<b>Secondary sample tubes</b>	See <a href="http://www.qiagen.com/goto/dsphandbooks">www.qiagen.com/goto/dsphandbooks</a> for more information
<b>Inserts</b>	Depends on type of sample tube used; for more information see <a href="http://www.qiagen.com/goto/dsphandbooks">www.qiagen.com/goto/dsphandbooks</a>
<b>Other</b>	Carrier RNA–Buffer AVE mix required; use of internal control is optional

## "Reagents and Consumables" drawer

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

n/a = not applicable.

## "Waste" drawer

<b>Unit box holder 1–4</b>	Empty unit boxes
<b>Waste bag holder</b>	Waste bag
<b>Liquid waste bottle holder</b>	Liquid waste bottle

## “Eluate” drawer

Elution rack (we recommend using slot 1, cooling position) See [www.qiagen.com/goto/dsphandbooks](http://www.qiagen.com/goto/dsphandbooks) for more information

## Required plasticware

	One batch, 24 samples*	Two batches, 48 samples*	Three batches, 72 samples*	Four batches, 96 samples*
Disposable filter-tips, 200 µl†‡	32	56	80	104
Disposable filter-tips, 1500 µl†‡	109	198	297	386
Sample prep cartridges§	21	42	63	84
8-Rod Covers¶	3	6	9	12

\* Use of more than one internal control per batch and performing more than one inventory scan requires additional disposable filter-tips. 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.

## Selected elution volume

Selected elution volume (µl)*	Initial elution volume (µl)†
60	90
85	115
110	140

\* The elution volume selected in the touchscreen. This is the minimum accessible volume of eluate in the final elution tube.

† The initial volume of elution solution required to ensure that the actual volume of eluate is the same as the selected volume.

## Preparation of internal control–carrier RNA (CARRIER)–Buffer AVE (AVE) mixture

Selected elution volume (µl)	Volume stock carrier RNA (CARRIER) (µl)	Volume internal control (µl)*	Volume Buffer AVE (AVE) (µl)	Final volume per sample (µl)
60	5	9	106	120
85	5	11.5	103.5	120
110	5	14	101	120

\* The calculation of the amount of internal control is based on the initial elution volumes. Additional void volume depends on the type of sample tube used; see [www.qiagen.com/goto/dsphandbooks](http://www.qiagen.com/goto/dsphandbooks) for more information.

**Note:** The values displayed in the table are for preparation of internal control–carrier RNA (CARRIER) mixture for a downstream assay that requires 0.1 µl internal control/µl eluate.

Tubes containing internal control–carrier RNA (CARRIER)–Buffer AVE (AVE) mixture are placed in a tube carrier. The tube carrier containing the internal control–carrier RNA (CARRIER)–Buffer AVE (AVE) mixture(s) must be placed in slot A of the sample drawer.

Depending on the number of samples to be processed, we recommend using 2 ml tubes (Sarstedt, cat. no. 72.693 or 72.694) or 14 ml 17 x 100 mm polystyrene, round-bottom tubes (Becton Dickinson, cat. no. 352051) for diluting the internal control, as described in the table below. The volume can be split into 2 or more tubes.

## Calculating the volume of internal control mixture

Tube type	Name on QIAasympy touchscreen	Calculation of internal control–carrier RNA (CARRIER)–Buffer AVE (AVE) mixture volume per tube
Microtube 2 ml with cap; microtube 2 ml, PP, SKIRTED, (Sarstedt, cat. No. 72.694)	SAR#72.694 T2.0 ScrewSkirt	$(n \times 120 \mu\text{l}) + 360 \mu\text{l}^*$
Microtube 2 ml with cap; microtube 2 ml, PP, NON-SKIRTED, (Sarstedt, cat. No. 72.693)	SAR#72.693 T2.0 Screw	$(n \times 120 \mu\text{l}) + 360 \mu\text{l}^*$
Tube 14 ml, 17 x 100 mm polystyrene round-bottom (Becton Dickinson, cat. no. 352051)	BD#352051 FalconPP 17x100	$(n \times 120 \mu\text{l}) + 600 \mu\text{l}^\dagger$

\* Use this equation to calculate the required volume of internal control mixture ( $n$  = number of samples; 120 µl = volume of internal control–carrier RNA (CARRIER)–Buffer AVE (AVE) mixture; 360 µl = void volume required per tube). For example, for 12 samples ( $n = 12$ ):  $(12 \times 120 \mu\text{l}) + 360 \mu\text{l} = 1800 \mu\text{l}$ . Do not fill the tube with more than 1.9 ml (i.e., a maximum of 12 samples per tube). If more than 12 samples will be processed, use additional tubes, ensuring that the void volume is added per tube.

† Use this equation to calculate the required volume of internal control–carrier RNA (CARRIER)–Buffer AVE (AVE) mixture ( $n$  = number of samples; 120 µl = volume of internal control–carrier RNA (CARRIER)–Buffer AVE (AVE) mixture; 600 µl = void volume required per tube). For example, for 96 samples ( $n = 96$ ):  $(96 \times 120 \mu\text{l}) + 600 \mu\text{l} = 12120 \mu\text{l}$ .

See [www.qiagen.com/goto/dsphandbooks](http://www.qiagen.com/goto/dsphandbooks) for required inserts.

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## 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.

### Plasma, serum, and CSF samples

The purification procedure is optimized for use with plasma, serum, or CSF samples. Blood samples treated with EDTA or citrate as anticoagulant can be used for plasma preparation. Samples can be either fresh or frozen, provided that they have not been frozen and thawed more than once. After collection and centrifugation, plasma, serum, or CSF can be stored at 2–8°C for up to 6 hours. For longer storage, we recommend freezing aliquots at –20°C or –80°C. Frozen plasma or serum must not be thawed more than once. Repeated freeze–thawing leads to denaturation and precipitation of proteins, resulting in a potential reduction in viral titers and, therefore, reduced yields of viral nucleic acids. If cryoprecipitates are visible in the samples, centrifuge at 6800 x g for 3 minutes, transfer the supernatants to fresh tubes without disturbing the pellets, and start the purification procedure immediately. Centrifugation at low g-forces does not reduce viral titers.

### Limitations

Blood samples treated with serum clot activator may cause reduced yields of viral nucleic acids. Do not use Greiner Bio-One® VACUETTE® Blood Collection Tubes containing Z Serum Clot Activator.

### Revision history

Document revision history	
R2 12/2017	Update for QIASymphony Software version 5.0

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