



X.Total RNA Extraction from Viruses

Contact Information

Corporate Office ADS BIOTEC Inc.

7409 Irvington Road Omaha, NE 68122 USA Phone: 888-974-7483 Fax: 800-402-3183

ADS Biotec Limited

40 Watt Road Hillington Park Glasgow, G52 4RY UK Registered in England and Wales Phone: +44 (0)141 892 8800 Fax: +44 (0)141 883 5967

Email: info@adsbiotec.com web: www.adsbiotec.com

LRT, SRT, and WRT refer to reagents from the QuickGene RNA Extraction kit, QG-RT-S2 and QG-AS-RT.

Reagents:

- Lysis Buffer (LRT),
- Solubilization Buffer (SRT)
- Wash Buffer (WRT)
- Elution Buffer (CRT)



RH-X1

Viral RNA Extraction from Serum

Protocol

Vortex for 30 sec (maximum speed), adding 10 µl of 10mg/ml Carrier RNA *1 solution and 150 µl of test serum to 200 µl of LRT (TCEP added) *2.

Flash spin down

Incubate at room temperature: 10 min

◄ SRT : 185 μl

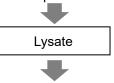
Vortex for 15 sec (maximum speed)

Flash spin down

→ >99% ethanol : 185 μl

Vortex for 1 min (maximum speed)

Flash spin down



Set into the device:

- QG-Mini480 or QG-Mini80*a
- QG-Auto12S or QG-Auto24S*b

*Please refer to Quick Start Guide or operation manual to know how to set sample tube.

- Apply the lysate into the cartridge 1.
- 2. Pressurizing
- Wash 1 time by Wash Buffer (WRT*4) 3.
- DNase treatment (if needed) 4.
- Wash 2 times by Wash Buffer (WRT*4)
- Add selected volume of Elution buffer (Elution volume: 100 µl)*3 and elute total RNA into collection tube.

*1 Carrier RNA., which is added for prevention of virus RNA decomposition by RNase in sample and also nonspecific adsorption of a small amount of refined RNA.

The following items are included in the extraction kit:

- Lysis Buffer (LRT)
- Solubilization Buffer (SRT) Wash Buffer (WRT) Elution Buffer (CRT)

*2 Add 20 µl of 0.5mol/L TCEP per 1 ml of LRT.

> Company: FUJIFILM Wako **Pure Chemical Corporation** Name: 0.5mol/L TCEP Solution Catalog No. : 207-20151

- The volume of the from each cartridge is 100µl. The volume of CRT can be reduced to 50 µl, but in that case, elution efficiency might be decreased.
- Please use ethanol added Wash Buffer (WRT)
- QuickGene RNA tissue kit S II (RT-S2) kit is used for QG-Mini480 or QG-Mini80
- QuickGene AutoS RNA Tissue kit (AS-RT) kit is used for QG-Auto12S or QG-Auto24S



Total RNA

Depending on sample and storage conditions, nucleic acid may not be extractable. Therefore, we cannot guarantee accurate data.

The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).



RH-X2

Viral RNA Extraction from Bronchoalveolar lavage (endo) tracheal aspirate/ nasopharyngeal aspirate/nasal wash

Protocol

Vortex for 30 sec (maximum speed), adding 10 µl of 10mg/ml Carrier RNA *1 solution and 150 µl of test sample to 200 µl of LRT (TCEP added) *2.

Flash spin down

Incubate at room temperature: 10 min

→ SRT : 185 μl

Vortex for 15 sec (maximum speed)

Flash spin down

→ >99% ethanol : 185 μl

Vortex for 1 min (maximum speed)

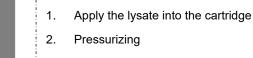
Flash spin down

Lysate

Set into the device:

- QG-Mini480 or QG-Mini80*a
- QG-Auto12S or QG-Auto24S*b

*Please refer to Quick Start Guide or operation manual to know how to set sample tube.



- Wash 1 time by Wash Buffer (WRT*4) 3.
- DNase treatment (if needed) 4.
- Wash 2 times by Wash Buffer (WRT*4)
- Add selected volume of Elution buffer (Elution volume: 100 µl)*3 and elute total RNA into collection tube.

*1 Carrier RNA., which is added for prevention of virus RNA decomposition by RNase in sample and also nonspecific adsorption of a small amount of refined RNA.

> The following items are included in the extraction kit:

- Lysis Buffer (LRT)
- Solubilization Buffer (SRT) Wash Buffer (WRT)
- Elution Buffer (CRT)

*2 Add 20 µl of 0.5mol/L TCEP per 1 ml of LRT.

> Company: FUJIFILM Wako Pure Chemical Corporation Name: 0.5mol/L TCEP Solution

Catalog No.: 207-20151

- The volume of the eluate from each cartridge is 100µl. The volume of CRT can be reduced to 50 µl, but in that case, elution efficiency might be decreased.
- Please use ethanol added Wash Buffer (WRT)
- QuickGene RNA tissue kit S II (RT-S2) kit is used for QG-Mini480 or QG-Mini80
- *b QuickGene AutoS RNA Tissue kit (AS-RT) kit is used for QG-Auto12S or QG-Auto24S



Total RNA

Depending on sample and storage conditions, nucleic acid may not be extractable. Therefore, we cannot guarantee accurate data.

The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).



Viral RNA Extraction from Nasopharyngeal swab or /and oropharyngeal swab

Protocol

Collect <u>swab samples</u> in 150 µl PBS or Saline in a 1.5ml microtube, adding 10 µl of 10mg/ml Carrier RNA *1 solution



Vortex (Maximum speed): 30 sec. Dispose the swab



Incubate at room temperature: 10 min



Vortex (Maximum speed): 15 sec

Flash spin down



SRT : 175 μl

Vortex (Maximum speed): 15 sec

Flash spin down



→ >99% ethanol : 175 μl

Vortex (Maximum speed): 1 min

Flash spin down



Set into the device:

- QG-Mini480 or QG-Mini80*a
- QG-Auto12S or QG-Auto24S*b

*Please refer to Quick Start Guide or operation manual to know how to set sample tube.



- 1. Apply the lysate into the cartridge
- 2. Pressurizing
- 3. Wash 1 time by Wash Buffer (WRT*4)
- 4. DNase treatment (if needed)
- 5. Wash 2 times by Wash Buffer (WRT*4)
- 6. Add selected volume of Elution buffer (Elution volume : $100 \ \mu l$)*3 and elute total RNA into collection tube.

Total RNA

Depending on sample and storage conditions, nucleic acid may not be extractable. Therefore, we cannot guarantee accurate data. The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).

*1 Carrier RNA., which is added for prevention of virus RNA decomposition by RNase in sample and also nonspecific adsorption of a small amount of refined RNA.

The following items are included in the extraction kit:

- Lysis Buffer (LRT)
- Solubilization Buffer (SRT)
- Wash Buffer (WRT)Elution Buffer (CRT)
- *2 Add 20 µl of 0.5mol/L TCEP per 1 ml of LRT.

Company: FUJIFILM Wako Pure Chemical Corporation Name: 0.5mol/L TCEP Solution

Catalog No. : 207-20151

*3 The volume of the eluate from each cartridge is 100µl.

The volume of CRT can be reduced to 50 µl, but in that case, elution efficiency might be decreased.

- *4 Please use ethanol added Wash Buffer (WRT)
- *a QuickGene RNA tissue kit S II (RT-S2) kit is used for QG-Mini480 or QG-Mini80
- *b QuickGene AutoS RNA Tissue kit (AS-RT) kit is used for QG-Auto12S or QG-Auto24S





RH-X4

Virus RNA Extraction from sputum

Protocol

Collect sputum samples (100µl) in a 1.5ml microtube



Add 50 μ l of PBS or saline, and 10 μ l of 10mg/ml Carrier RNA *1 solution



Vortex (Maximum speed): 60 sec.



◆ Add LRT (TCEP added) *2 : 200 μl

Incubate at room temperature: 10 min



Vortex (Maximum speed): 15 sec

Flash spin down



- SRT : 175 μl

Vortex (Maximum speed): 15 sec

Flash spin down



→ >99% ethanol : 175 μl

Vortex (Maximum speed): 1 min

Flash spin down



Set into the device:

- QG-Mini480 or QG-Mini80*a
- QG-Auto12S or QG-Auto24S*b

*Please refer to Quick Start Guide or operation manual to know how to set sample tube.



- 1. Apply the lysate into the cartridge
- 2. Pressurizing
- 3. Wash 1 time by Wash Buffer (WRT*4)
- 4. DNase treatment (if needed)
- 5. Wash 2 times by Wash Buffer (WRT*4)
- Add selected volume of Elution buffer (Elution volume : 100 μl)^{*3} and elute total RNA into collection tube.

Total RNA

Depending on sample and storage conditions, nucleic acid may not be extractable. Therefore, we cannot guarantee accurate data. The extracted nucleic acid contains unintended acid (ex: when extracting DNA, RNA is also extracted).

*1 Carrier RNA., which is added for prevention of virus RNA decomposition by RNase in sample and also nonspecific adsorption of a small amount of refined RNA.

*2 Add 20 µl of 0.5mol/L TCEP per 1 ml of LRT.

Company: FUJIFILM Wako Pure Chemical Corporation Name: 0.5mol/L TCEP

Solution

Catalog No. : 207-20151

- *3 The volume of the eluate from each cartridge is 100μl. The volume of CRT can be reduced to 50 μl, but in that case, elution efficiency might be decreased.
- *4 Please use ethanol added Wash Buffer (WRT)
- *a QuickGene RNA tissue kit S II (RT-S2) kit is used for QG-Mini480 or QG-Mini80
- *b QuickGene AutoS RNA Tissue kit (AS-RT) kit is used for QG-Auto12S or QG-Auto24S

