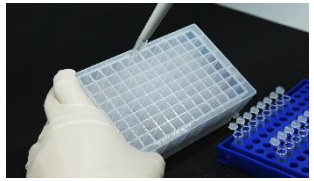
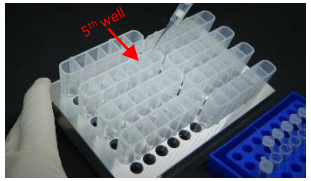
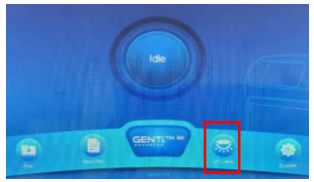
End of Run




Once extraction is completed, take tube rack out of the equipment and collect Viral DNA/RNA from **5th (11th)well** depending on where samples were dispensed.
Transfer eluent into 1.5 ml or PCR tube.
Amount of eluted buffer will be around 80 µl and it is ready to use.

Regular UV sterilization eliminates bacteria and virus, nucleic acid, hence it minimizes internal pollution within the system.
Before/after the extraction, touch UV Lamp button.
The sterilization process will continue for the time you set.

Troubleshooting Guide

Problem	Causes	Comments and Suggestions
Physical damage of the kit	Upside down during transportation may cause beads to stick with sealing film.	Spin down by hand the plate or strip by hand before open it.
	Sealing film is detached and reagent is spilled to other wells due to improper storage temperature.	Spin down by hand and measure reagent volume with eyes. If reagent volumes are insufficient, extraction efficiency may decrease. Do not use it and contact customer service immediately.
Magnetic rod function failure	Stain on the magnetic rod	Ensure the magnetic rod covers are inserted properly before extraction. Clean magnetic rods using 70% concentration of ethanol and clean with cloth.
Extractor malfunction	System is not working	Make sure system is plugged. Refer to user manual of GENTi™ Advanced for further details.
	Liquid spilled and adhered to system	Use UV light for sterilization and then clean with 70% concentration of ethanol.
	Collision	Improperly attached plate or strip may cause collision (between plate & strip, plate & system component and strip & system component). Turn off the device and make sure plate and strip are properly attached.
Abnormal extraction	Too much beads left in Elution buffer	If DNA/RNA density is normal, you may proceed with the eluted solution. If DNA/RNA density is low, pipette eluted solution to 1.5 ml or PCR tube and centrifuge before use.

Storage Conditions

- Temperature : Room Temperature (15~25℃)
- Humidity : 20~80%

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GENEALL BIOTECHNOLOGY CO., LTD
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Symbol	Used for	Symbol	Used for
LOT	Batch number		Manufacturer
REF	Catalogue number	IVD	In-vitro diagnostic medical device
	Consult Instructions For Use		Do not reuse
	Caution		Date of Manufacture
	Temperature limitation	CE	CE-Mark
	Expiry date	EC REP	Representative in EC

2023.08

Ver. 1.4

GeneAll®

Store at RT
Shelf life is 12 months after manufacturing

CE IVD

GENTi™ 32 ADVANCED
Viral DNA/RNA Extraction Kit (Single Tube Type/Plate Type)

Description

GENTi™ Advanced Viral DNA/RNA Extraction Kit utilize magnetic bead-based equipment, enables highly efficient nucleic acid extraction from a wide range of samples.
Maximum 32 and 16 samples (902-048A / 902-096A) are performed in deep well conical shaped bottom plate (tube), which enables precise fit with heating block and deliver the highest possible recovery of nucleic acids.

Intended Use

GENTi™ Advanced Viral DNA/RNA Extraction Kit is designed for the isolation of total RNA and DNA from cell-free fluid, cell culture medium, plasma, serum, swab, stool, tissues, body fluids, whole blood, urine, and virus-infected liquid samples. Purified nucleic acid can be used for the downstream applications such as PCR, RT-PCT, qPCR, qRT-PCR and other molecular diagnostic testing.

Kit Contents

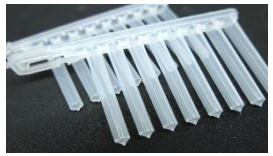
Components	Quantity	
	902-096A	902-048A
Number of Preparation	96 tests/kit	48 tests/kit
Pre-filled with reagents	6 plate	48 tube
Magnetic rod cover (6 pcs/pk)	2 pk	4 pk
Carrier RNA (lyophilized), 370 µg *	2 tubes	1 tube
Nuclease-free water, 1 ml	2 tubes	1 tube

** Reconstitute the lyophilized Carrier RNA by adding 370 µl of Nuclease-free water (provided) before use.*

- 96 Deep-well plate pre-filled with reagents


- 8 Strip deep-well tube pre-filled with reagents

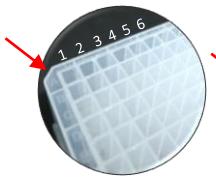

- Disposable magnetic rod cover



- GENTi™ Advanced instrument heat block

- Conical shape of the plate, magnetic rod cover and heating block
- Heating block combined with the close fit of conical shaped material for fast and efficient heat transfer

Brief Workflow



96 deep-well Plate

8 Strip deep-well tube

1. Lysis
2. Binding
3. Washing
4. Washing
   + Magnetic beads
5. Elution
6. Washing

- 6 consequent wells are aligned horizontally and each well contains specific reagents for extraction.
- 1st (7th)well contains lysis buffer which destroy cell membranes and bind Target DNA/RNA with magnetic beads.
- 2nd (8th)well contains binding buffer that help magnetic bead hold Target DNA/RNA.
- Magnetic bead is located at 4th (10th)well until the extraction begins and moves to first well by device once initiated.
- 3rd, 4th, 6th (9th, 10th, 12th)well contain washing buffer in order to remove unwanted cell component and buffers.
- Elution buffer in 5th (11th)well detaches Target DNA/RNA from magnetic bead and complete extraction process.
- If particles are not visible in well 4th (10th)shake down the cartridge to dislodge particles that may have adhered to the seal material before removing the seal.

Protocol

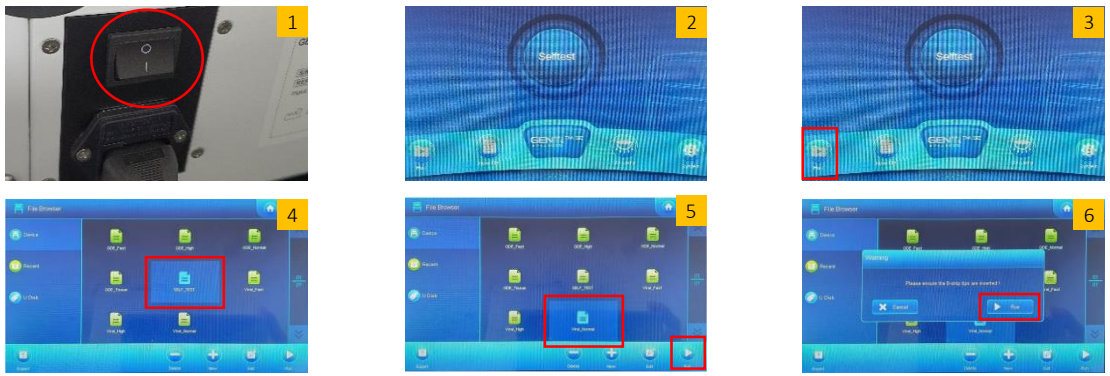
Protocol	Ex) Condition
Fast 17’ 46”	• Time-saving, high-speed extraction for diagnostics PCR-ready nucleic acid • Double check the accuracy of sample confirmed positive
Normal 29’ 35”	• Standard procedure of nucleic acid extraction • Optimized for nucleic acid extraction from a variety of clinical sample
High 42’ 12”	• High quality nucleic acid extraction (High yield & purity) • Accommodate complex clinical samples. ex) stool, swab, NGS-grade sample, etc.

Protocol Normal.

Step	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9
Well	4	1	2	3	4	6	6	5	4
Name	Bead TF	Lysis	Bind	Wash 1	Wash 2	Wash 3	Dry	Elution	Reclaim
Waiting	00:00	00:00	00:00	00:00	00:00	00:00	01:00	00:00	00:00
Mixing	00:00	10:10	01:30	01:30	01:10	01:10	00:00	05:00	00:15
Magnet	00:20 x 2	00:30 x 3	00:20 x 2	00:25 x 2	00:40	00:40	00:00	00:15 x 5	00:00
Volume	700	1000	600	700	700	700	100	100	50
Speed	Slow	Fast	Fast	Fast	Fast	Fast	Slow	Fast	Fast
Collet	Cycle	Cycle	Cycle	Cycle	Strong	Strong	Strong	Cycle	Strong

Heat Block	Lysis	Elution
Block Tm	35 ºC	85 ºC
Start step	-	Step 7
Stop step	Step 2	-

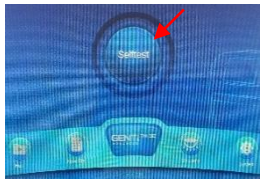
equipment Run



1. Turn on the **power switch** located on the right rear of the equipment.
2. Touch **‘RUN’** button when the home screen panels appear.
3. Select **‘Self Test’** at the File Browser screen and then touch ‘RUN’ button to run a self-test.
4. After self test completes, select **‘Normal ’** protocol and then touch ‘RUN’ button for the operation.
   (Optimal protocol of the three options, 1) Fast <17 min>, 2) Normal <29 min>, 3) High <42 min>)

   * Note : If ‘Warning’ screen appears, check system and touch ‘RUN’ button again.

Precautions for Use of equipment

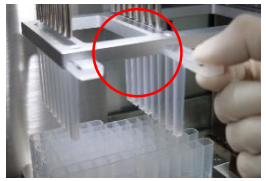


- Self-test

Automatic start self-test when the instrument is turned on

- Mounting Tube rack

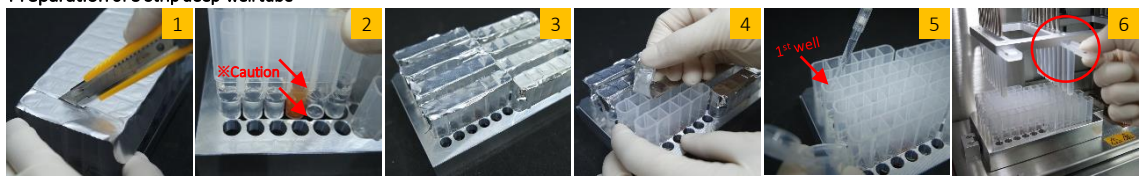
Be careful when mounting the tube rack on the equipment and gently mount it.



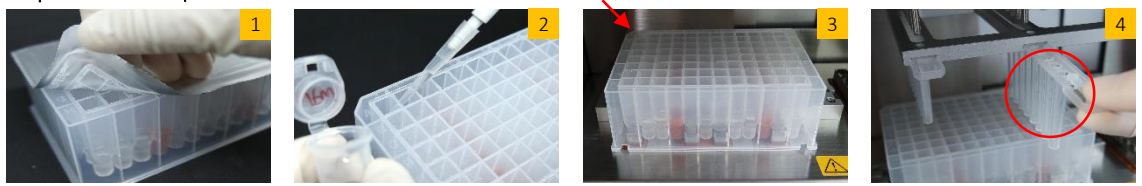
- Mounting magnetic rod cover

When installing the magnetic rod cover, push it to the end of equipment.

Preparation of 8 Strip deep-well tube



Preparation of 96 Deep-well Plate



(8 Strip deep-well tube) Cut the tube as much as necessary and install it in the GENTi™ Advanced Aluminum tube rack.

1. Peel back the seal of pre-filled with reagents plate. (Tube)
2. Dispense 7 µl of dissolved carrier RNA to 1st (7th)well.

   * Note : To obtain a working solution of 1 µl/µg, add 370 µl of nuclease-free water to the tube containing 370 µg of Carrier RNA. Dissolve the Carrier RNA thoroughly, divide it into conveniently sized aliquots, and store at -20℃, Do not freeze-thaw the aliquots of Carrier RNA more than 3 times.
3. Dispense 200 µl of samples to 1st (7th)well.
4. Load plate on the tray of GENTi™ Advanced equipment system.

   * Note : Make it sure that diagonally cut edge of tube rack faces the top left of the heating block and check if the tube rack is placed evenly.
5. Insert magnetic rod cover to the end to strip bracket.

   * Note : Ensure that magnetic rod cover is in the correct position.

Carrier RNA

This kit is provided with carrier RNA, which can be added at pre-treatment step if required. Carrier RNA can help improve the binding of viral nucleic acids to the membrane especially if very few target nucleic are present in the samples, and protect target nucleic acids from chances of degradation by residual RNase activity