



TANBead® Nucleic Acid Extraction Kit

OptiPure Viral Auto Plate

(For use with the Maelstrom 9600 series)



W665A46

(For Professional Use Only) V4

1. Intended Purpose

The TANBead® Nucleic Acid Extraction Kit is a nucleic acid purification kit based on magnetic bead technology by using with corresponding TANBead® Nucleic Acid Extractor, which can automatically isolate and purify total RNA from a broad range of viruses, such as hepatitis C virus in human serum and samples suspended in phosphate buffered saline (PBS). The purified RNA can be used with any downstream application employing PCR-based qualitative, semi-quantitative and quantitative assays. The kit is intended for use by technicians, physicians, and biologists with well-trained in molecular biological techniques, the techniques of magnetic bead purification and in vitro diagnostic procedures. Any diagnostic results generated by using the sample preparation procedure in conjunction with any downstream diagnostic assay should be interpreted related to other clinical or laboratory findings. The kit is not limited to any specific disorder, condition, or other additional accompanying diagnostics. It is applicable for all population.

2. The basic principle

The silicon dioxide layer coated on the magnetic beads can adsorb the negatively charged molecules to purify nucleic acids from samples.

3. Specification

Starting Materials	300 µL serum or PBS suspension
Elution Volume	50~80 µL

4. Component Supplied with the Kit

Auto Plate	6	Auto Plate with reagent buffers
Proteinase K	1.0 mL x 1	Proteinase K
Elution Buffer	1.5 mL x 1	Nuclease-Free Water
Spin tips	96 tips	Spin tip assembled box
Protocol	1	Instruction guide for user

5. Auto Plate Content and Plate Position ^{▽₉₆}

Plate Position	Buffer	Volume (µL)
1	Lysis Buffer	600
2	Washing Buffer 1	800
3	Washing Buffer 2	800
4	Washing Buffer 2	800
5	Magnetic Beads	800
6	Elution Buffer	80
7	N / A	N / A
8	N / A	N / A

6. Kit Storage and Shelf Life

- Components under room temperature (15~35°C) can be stored until the expiration date labeled on the box.
- The proteinase K is transported at room temperature. Upon received, please store proteinase K at 2~8°C.

7. Precautions

- It can only be used for in vitro diagnostic.
- Avoid using expired reagents.
- When the temperature is below 20°C, place the Auto Plates in an oven (preheated 42~60°C) from 5 to 10 minutes.
- Avoid vigorous shaking, in order to avoid excessive formation of foam.
- Carefully remove aluminum foil to avoid splashing.
- Do not expose the opened reagents or Auto Plates to air. The evaporation would lead to pH change, or effect on the extraction effectiveness.
- Please check the integrity of the Auto Plates and remember to mount the spin tips into the appropriate position of the suitable instrument before operating them.
- Please wear a mask and disposable gloves when handling.
- Use sterile consumables to avoid nuclease contamination.
- Reagent solution contains guanidine salt, avoid using bleach containing detergent.

- Avoid eyes, skin, and clothing contact with reagents. In case of any contact, flush with flowing water.
- If any serious incident occurs, please report to the manufacturer and the competent authority of the member state in which the user and / or the patient is established.
- The reagents are all colorless and transparent. Colored reagents indicate contamination, please replace it with a fresh plate before proceeding.

8. Materials required, Not Supplied

- TANBead® Nucleic Acid Extraction System
Model: Maelstrom 9600 series (non-sterile)
- Disposable gloves
- Scissors, utility knives
- Micropipette, disposable tips (10 µL / 200 µL / 1000 µL)
- 1.5 mL microcentrifuge tube
- 15 mL / 50 mL conical tube

9. Sample Collection, Transportation, and Storage

■ Sample collection and storage

- Serum, whole blood
 - Serum specimens must be obtained from serum collection tubes, whole blood specimens must be obtained from sodium citrate or EDTA collection tubes.
 - Fresh whole blood specimens can be stored at room temperature for 6 hours.
 - After centrifugation, the serum sample can be stored at
 - Room temperature for 24 hours.
 - 2~8°C up to 7 days.
 - 20°C long-term preservation.

■ Specimen transportation

Transportation of whole blood, serum specimens should be followed by specific pathogen transportation-related laws. The whole blood sample should be kept between 2~25°C during transportation and within 6 hours for separated serum. Serum samples can be transported between 2~8°C or by freezing.

10. Nucleic Acids Extraction Protocol

- Carefully remove the aluminum foil on the Auto Plates.
- Add **300 µL serum** or **PBS suspension** and **10 µL Proteinase K** into wells of **plate #1** of Auto Plate (Plate filled with lysis buffer).
Note: The volume ratio of sample and lysis buffer is about 300 µL: 600 µL. Changing this ratio might affect the performance.
- Select the program **"665"** or **"665-RAPID"**. The parameters are given in the following section.
Note: Program "665-RAPID" improves the processing time. The actual extraction performance depends on various sample type.
- Follow the guide shown on the screen and place plates carefully. Make sure that the chamfer of the plate faces toward the same direction.
- Carefully remove the Auto Plates when the program is finished.
- Use micropipette to transfer the purified nucleic acids from **plate #6** to a clean tube.
- Discard used Auto Plates and spin tips into the waste recycling bin.

11. Program

■ Maelstrom 9600 series

Program Name: 665								
Plate	1	2	3	4	5	6	7	8
Volume(µL)	900	800	800	800	800	150	-	-
Keep Temp.	45	45	40	-	-	50	-	-
Action	For.	For.	For.	For.	For.	For.	-	-
Name	LB	WB1	WB2	WB2	MB	EB	-	TIP
Step	Plate	Temp. (°C)	Mixing (min)	Mixing (rpm)	Collect (sec)	Vapor (min)	Pause	

1	5	-	0	3000	30	0	Off
2	1	60	10	3000	30	0	Off
3	2	50	1	3000	30	0	Off
4	3	40	1	3000	30	0	Off
5	4	-	1	3000	30	10	Off
6	6	65	5	3000	30	0	Off
7	5	-	0.1	3000	0	0	Off

Program Name: 665-RAPID								
Plate	1	2	3	4	5	6	7	8
Volume(μL)	900	800	800	800	800	100	0	-
Keep Temp.	45	45	45	-	-	45	0	-
Action	For.	For.	For.	For.	For.	For.	-	-
Name	LB	WB1	WB2	WB2	MB	EB	-	TIP
Step	Plate	Temp. (°C)	Mixing (min)	Mixing (rpm)	Collect (sec)	Vapor (min)	Pause	
1	5	-	0	3000	30	0	Off	
2	1	60	8	3000	30	0	Off	
3	2	45	1	2000	30	0	Off	
4	3	45	1	3000	30	0	Off	
5	4	-	1	3000	30	5	Off	
6	6	45	5	3000	30	0	Off	
7	3	0	0.2	3000	0	0	Off	

⚠ Temperature set as "0" represents room temperature!

■ **Maelstrom 9610 series**

Program Name: 665								
Plate	1	2	3	4	5	6	7	8
Volume(μL)	900	800	800	800	800	150	-	-
Preheat.	45	45	40	-	-	50	-	-
Action	For.	For.	For.	For.	For.	For.	-	-
Name	LB	WB1	WB2	WB2	MB	EB	-	TIP
Step	Plate	Temp. (°C)	Mixing (min)	Mixing (rpm)	Collect (sec)	Vapor (min)	Pause	
1	5	-	0	3000	30	0	Off	
2	1	60	10	3000	30	0	Off	
3	2	50	1	3000	30	0	Off	
4	3	40	1	3000	30	0	Off	
5	4	-	1	3000	30	10	Off	
6	6	65	5	3000	30	0	Off	
7	5	-	0.1	3000	0	0	Off	

Program Name: 665-RAPID								
Plate	1	2	3	4	5	6	7	8
Volume(μL)	900	800	800	800	800	100	-	-
Keep Temp.	45	45	45	-	-	45	-	-
Plate	1	2	3	4	5	6	7	8
Action	For.	For.	For.	For.	For.	For.	-	-
Name	LB	WB1	WB2	WB2	MB	EB	-	TIP
Step	Plate	Temp. (°C)	Mixing (min)	Mixing (rpm)	Collect (sec)	Vapor (min)	Pause	
1	5	-	0	3000	30	0	Off	
2	1	60	8	3000	30	0	Off	
3	2	45	1	2000	30	0	Off	
4	3	45	1	3000	30	0	Off	
5	4	-	1	3000	30	5	Off	
6	6	45	5	3000	30	0	Off	
7	3	25	0.2	3000	0	0	Off	

⚠ Temperature set as "25" represents room temperature!

12. Result

Nucleic acid product purified by TANBead® nucleic acid extraction kit can perform qualitative / quantitative analysis of specific genes by PCR, RT-PCR, Q-PCR or qRT-PCR. Please refer to the molecular diagnostic kit manual.

13. Reagent performance

■ **Repeatability**

Under repeatability conditions where nucleic acids are extracted with the same reagent kit on the same HCV serum concentration by the same operator. The coefficient of variation of nucleic acid extraction concentration is less than 5%.

■ **Reproducibility**

A five-day reproducibility test was carried out with 100 IU / mL of HCV serum samples for 5 consecutive days with the same reagent kit by different operators. The coefficient of variation of nucleic acid extraction concentration is less than 5%.

■ **Detection limit of HCV virus: ≥100 IU / mL**

■ **Interfering substance**

According to preclinical tests, the performance of extraction kit will not be affected by EDTA, Li-Heparin, Sodium Citrate, D-Glucose, Hemoglobin, lipoprotein and triglyceride in samples.

■ **The stability of extracted RNA**

Storage Conditions	RNA stability
-80°C	Over 90 days
-20°C	28 days
4°C	14 days
25°C	2 days
Freeze-thaw	10 times

14. Explanation of Symbols

	Manufacturer		Consult instructions for use
	Temperature limit		Contains sufficient for test
	CE mark		In vitro diagnostic medical use
	Catalogue number		Caution
	Batch code		Non-sterile
	Do not re-use		Keep away from sunlight
	Date of manufacture		Use-by date

EC REP

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15. Post-market surveillance conclusion

After a risk assessment and clinical evaluation assessment, when weighing the benefits of medical device, patients, and the risks associated with the use of the device, the risk is acceptable. The post-market surveillance report shows that no death or serious adverse events occurred.