



TANBead® Nucleic Acid Extraction Kit

Plant RNA Auto Plate

(For use with the Maelstrom 8 series and Maelstrom 4800 series)

RUO

M6K3A46

(For Research Use Only) V4

1. Intended Use

This product is designed for isolating nucleic acid from various samples, which can be performed by using TANBead® Nucleic Acid Extractor and is intended for research use only.

2. Purpose

TANBead® Nucleic Acid Extraction Kit (M6K3A46) is employed in RNA isolation from a variety of plant tissues. After pretreatment and transferring of the sample, with automated nucleic acids extractor (Maelstrom 8 series & Maelstrom 4800 series) your precious time will be saved and the isolation of RNA will be remarkably and sequencing. It is suitable for laboratories with high throughput requirement.

3. The basic principle

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

4. Specification

Starting Materials	30 – 50 mg plant tissues
Elution Volume	70~100 µL
Typical DNA yield	≥5 µg

5. Component Supplied with the Kit

Auto Plate	6	Auto Plate with reagent buffers
Lysis Buffer	90 mL x 1	Sodium salt, Tris buffer, surfactants
Elution Buffer	1.5 mL x 1	Nuclease-Free Water
Spin tips	96 tips	Spin tip assembled box
Protocol	1	Instruction guide for user

6. Auto Plate Content

Well	Buffer	Volume (µL)
1 / 7	Lysis Buffer	-
2 / 8	Washing Buffer 1	800 µl
3 / 9	Magnetic Beads	800 µl
4 / 10	Washing Buffer 2	800 µl
5 / 11	Washing Buffer 2	800 µl
6 / 12	Elution Buffer	100 µl

7. Kit Storage and Shelf Life

1) Components under room temperature (15~35°C) can be stored until the expiration date labeled on the box.

8. Precautions

- For research use only.
- Avoid using expired reagents.
- When the temperature is below 20°C, place the Auto Plates / Auto Tubes in an oven (preheated 42~60°C) for 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 / Auto Tubes to air. The evaporation would lead to pH change or effect on the extraction effectiveness.
- Please check the integrity of the Auto Plates / Auto Tubes 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.
- Only Washing Buffer 2 and Elution Buffer are colorless and transparent. Colored reagent indicates contamination, please replace it with a fresh Plate before proceeding.

9. Materials required, Not Supplied

- TANBead® Nucleic Acid Extraction System
Model: Maelstrom 8 series, Maelstrom 4800 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

10. Sample Collection, Transportation, and Storage

■ Sample collection and storage

- Use liquid nitrogen to homogenize the samples.
- Add **800 µL Lysis Buffer** to lysis the sample.
- Mix well and stand for 10 minutes on ice.
- Centrifuge at 6000 RPM for 5 minutes.
- Specimen transportation
- Transportation of plant tissue specimen should follow specific plant transportation related law. Plant sample should be kept between 2 - 25°C during transportation.

11. Nucleic Acids Extraction Protocol

- Carefully remove the aluminum foil on the Auto Plates.
- Transfer **500 µL lysate** into **well #1 / #7** of Auto Plate.
- Load **500 µL IPA** into **well #1 / #7**.
- Set up spin tips.
Maelstrom 8 series: Handle to mount tips and make sure that there is no gap between the necks of spin tips and the spin shaft.
Maelstrom 4800 series: Go to Tip page and press the mount tips region.
- Push Auto Plates completely to the bottom of the plate rack. Make sure that the chamfer of the plate is at the lower left.
- Select the program:
Maelstrom 8 series: "6K3-1" or "6K3-7" for input specimen at column #1 or column #7, respectively.
Maelstrom 4800 series: "6K3"
The parameters are given in following section.
- Carefully remove the Auto Plates when the program is finished.
- Use a micropipette to transfer the purified nucleic acids from **well #6 / #12** to a clean tube.
- Discard used Auto Plates and spin tips into the waste recycling bin.

12. Program

■ Maelstrom 8 series

Program Name: 6K3-1 / 7						
Well	1 / 7	2 / 8	3 / 9	4 / 10	5 / 11	6 / 12
Volume	800 (μL)	800 (μL)	800 (μL)	800 (μL)	800 (μL)	150 (μL)

Step	Well	Action	RPM	Time (Second)	CW/CCW (Second)	Temp.	Temp. Control
1	3 / 9	Mixing	3000	10	0	55	YES
2	3 / 9	Collection	0	30	0	55	YES
3	2 / 8	Mixing	3000	30	0	55	YES
4	2 / 8	Collection	0	30	0	55	YES
5	1 / 7	Mixing	3000	600	0	55	YES
6	1 / 7	Collection	0	30	0	55	YES
7	2 / 8	Mixing	3000	120	0	45	YES
8	2 / 8	Collection	0	30	0	45	YES
9	3 / 9	Mixing	3000	120	0	45	YES
10	3 / 9	Collection	0	30	0	45	YES
11	4 / 10	Mixing	3000	120	0	45	YES
12	4 / 10	Collection	0	30	0	45	YES
13	5 / 11	Mixing	3000	120	0	45	YES
14	5 / 11	Collection	0	30	0	45	YES
15	5 / 11	Vapor	0	600	0	45	YES
16	6 / 12	Mixing	3000	600	0	45	YES
17	6 / 12	Collection	0	60	0	45	YES
18	5 / 11	Mixing	3000	30	0	0	NO

■ Maelstrom 4800 series

Program Name: 6K2				Model: Maelstrom 4800 series			
Temp1	Temp2						
45	40						
Well	Name	Volume	Action	Mixing	Collect		
1 / 7	LB	800	For.	Low	Low		
2 / 8	WB1	800	For	Low	Low		
3 / 9	MB	800	For	Low	Low		
4 / 10	WB2	800	For	Low	Low		
5 / 11	WB2	800	For	Low	Low		
6 / 12	EB	100	For	Low	Low		
Step	Well	Temp (°C)	Mixing (M)	Mixing Speed (RPM)	Collect (M)	Vapor (M)	Pause
1	3 / 9		0.2	3000	0.5	0	Off
2	2 / 8		0.5	2500	0.5	0	Off
3	1 / 7	55	10	2500	0.5	0	Off
4	2 / 8		2	2500	0.5	0	Off
5	3 / 9		1	1500	0.5	0	Off
6	4 / 10		1	1500	0.5	0	Off
7	5 / 11		1	1500	0.5	10	Off
8	6 / 12	45	5	2500	0.5	0	Off
9	3 / 9		0.2	3000	0	0	Off

13. 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.

14. Reagent performance

■ 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	5 times

15. Explanation of Symbols

	Manufacturer		Consult instructions for use
	Temperature limit		Contains sufficient for test
	Catalogue number		Caution
	Batch code		Non-sterile
	Do not re-use		Keep away from sunlight
	Date of manufacture		Use-by date
	For research use only		