TANBead® Nucleic Acid Extraction Kit

Plant RNA Auto Plate

(for use with the Maelstrom 8)

CE

REF M6K3A46

(For Professional Use Only)

1. Intended Use

TANBead® Nucleic Acid Extraction Kit (REF M6K3A46) is suitable for isolating nucleic acid from fresh plant cells or tissues specimen. Automated nucleic acid extraction can be performed by Maelstrom 9600. Extracted nucleic acids can be analyzed by downstream application, such as real-time PCR, next-generation sequencing.

2. Purpose

TANBead® Nucleic Acid Extraction Kit (REF M6K3A46) is employed in a variety of plant cells or tissues for RNA isolation, as well as viral nucleic acid purification. This high-performance kit with TANBead® Nucleic Acid Extractor (M8-H Autostage), unlike traditional RNA extraction methods, can handle up to 8 samples. It saves manual steps, reduces human error, the possibility of cross-contamination, and is very suitable for laboratories with large quantity of samples.

3. Principle

The silicon dioxide layer coated on the magnetic beads can adsorb negative charged molecules in order to purify nucleic acid from samples.

Sample Types: 30-100 mg plant tissue

Suitable Instrument: Maelstrom 8 Autostage

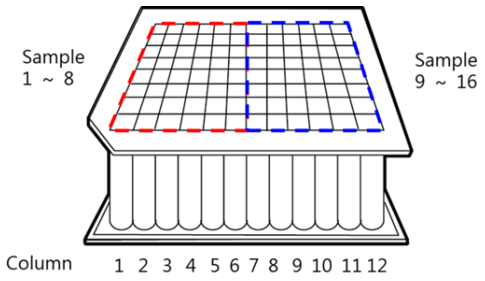
4. Reagent Components

REF M6K3A46 — 96 Assays

Auto Plates	6	96 well plate with reagent buffers
Lysis Buffer	90 ml x 1	Guanidine salt, Tris buffer, surfactants
Elution Buffer	20 ml	Nuclease-Free Water
Spin tips	96	Spin tip
Protocol	1	Instruction guide for user

Auto Plate Content

Column	Buffer Solution	Volume
1/7	Binding Buffer	300 µl
2/8	Washing Buffer 1	800 µl
3/9	Magnetic Beads	800 µl
4/10	Washing Buffer 3	800 µl
5/11	Washing Buffer 3	800 µl
6/12	Elution Buffer	100 µl



5. Storage and shelf life

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

6. Precautions

1) Avoid using expired reagents.
2) When the temperature is below 20℃, place the reagent plate in an oven (preheated 42 - 60℃) 5 to 10 minutes.
3) Avoid vigorous shaking, in order to avoid excessive formation of foam.
4) Do not exposure opened reagents or plates to air. The evaporation would lead to pH change, or influence the extraction effectiveness.
5) Reagents are all colorless and transparent. Colored reagent indicate contamination, please replace a fresh plate before proceeding.
6) Before use, please check the integrity of the reagent plate, and remember to mount the spin tips into the appropriate position.
7) Please wear a mask and disposable gloves when handling.
8) Remove aluminum foil carefully to avoid splashing.
9) Use sterile consumables to avoid nuclease contamination.
10) Reagent solution contains guanidine salt, avoid using bleach containing detergent.
11) Avoid eyes, skin and clothing contact with reagents. In case of any contact, flush with flowing water.
12) If any serious incident that has occurred, please report to manufacturer and the competent authority of the member state in which the user and/or the patient is established.

7. Provided Materials

1) TANBead® Nucleic Acid Extraction Kit
   a. Auto Plates
   b. Lysis Buffer
   c. Elution Buffer
   d. Spin tips

8. Required but not provided

1) TANBead® Nucleic Acid Extraction System
   Model: Maelstrom 8 Autostage(non-sterile)
2) Disposable gloves
3) Scissors, utility knives
4) Micropipette, disposable tips (10µl / 200 µl / 1000 µl)
5) 1.5 ml microcentrifuge tube

9. Sample collection, transport, storage and pre-treatment

■ Sample collection and storage

1) Plant tissue can be stored at
   - RT for 24 hours
   - 2-8℃ up to 7 days

■ Specimen transportation

Transportation of plant tissue specimen should follow specific plant transportation related law. Plant sample should be kept between 2-25℃ during transportation.

10. Nucleic acid extraction protocol

1) Use **800 µl Lysis Buffer** to homogenize tissue sample.
2) Mix well and stand for **10 minutes** at room temperature.
3) Centrifuge at **6000 RPM for 5 min**.
4) Carefully remove the aluminum foil from Auto Plate.
5) Load **500 µl lysate** into **column #1/#7** of Auto Plate.
   Note: The volume ratio of mixture and Binding buffer is about 500 µl: 300 µl. If it is changed, it might be affected the performance.
6) Place Auto Plate completely to the autostage of plate. Make sure that the missing corner of base faces toward the lower left.
7) Mount spin tips on Maelstrom 8.
8) Edit/ Select the program "**6K3-1/7**". The parameters are given in following section.
9) Once the program has ended, take out Auto Plate carefully.
10) Use micropipette to transfer the purified nucleic acid from column **#6/ #12** to a clean tube.
11) Discard the used Auto Plate and strips into the waste recovery can.

11. Program

Program Name:6K3-1/7					
well 1/7	well 2/8	well 3/9	well 4/10	well 5/11	well 6/12
800 (μl)	800 (μl)	800 (μl)	800 (μl)	800 (μl)	100 (μl)

Step	Well	Action	RPM	Time (Second)	CW/CCW (Second)	Temperature	Temperature_ 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
19	3/9	Mixing	3000	10	0	55	YES

12. Result

- Total RNA yield: 2-5 μg;
- 260/280 ratio of nucleic acid: 1.8-2.0

13. Reagent performance

- Repeatability

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

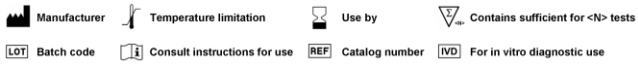
- Reproducibility

A five-day reproducibility test was carried out with the same source 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%.

- The stability of extracted DNA/RNA

Storage Conditions	DNA/RNA stability
-80℃	Over 90 days
-20℃	28 days
4℃	14 days
25℃	2 days
Freeze - thaw	10 times

14. Explanation of Symbols



Lot: As indicated on pack label
Shelf life: As indicated on pack label

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