TANBead® Nucleic Acid Extraction Kit

Tissue Total DNA Auto Plate

(for use with the Maelstrom 8)

CE

REF M6T2A46

(For Professional Use Only)

1. Intended Use

TANBead® Nucleic Acid Extraction Kit (REF M6T2A46) is suitable for isolating DNA from tissue specimen. Automated nucleic acid extraction can be performed by Maelstrom 8. 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 M6T2A46) is dedicated to the isolation of DNA from tissues that are difficult to be lysed. Samples need to be first treated with proteinase K, followed by adding samples into Auto Plate/Tube and processed by Maelstrom 8. The protocol dramatically reduces experimental time and enhances consistency and reproductivity of DNA isolation and is suitable for laboratories with high-throughput requirement.

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: 50 - 100 mg tissue samples

Suitable Instrument: Maelstrom 8 Autostage

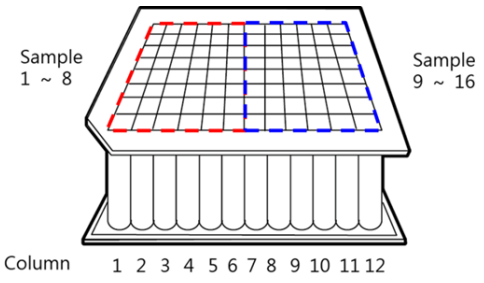
4. Reagent Components

REF M6T2A46 — 96 Assays

Auto Plates	6	96 well plate with reagent buffers
Incubation Buffer	25 ml	Tris buffer, surfactants, pH 8.0
Elution Buffer	20 ml	Nuclease-Free Water
Proteinase K	1 ml	20 mg/ml Proteinase K, store at 4℃
Spin tips	96	Spin tip
Protocol	1	Instruction guide for user

Auto Plate Content

Column	Buffer Solution	Volume
1/7	Lysis Buffer	700 µl
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	130 µl



5. Storage and shelf life

1) Components under room temperature (15-35℃) can be stored until the expiration date labeled on the box.
2) The proteinase K is transported at room temperature. When received, please store proteinase K at 4℃.

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. Proteinase K
   c. Elution Buffer
   d. Incubation Buffer
   e. 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) Animal tissue can be stored at
   - RT for 24 hours
   - 2-8℃ up to 7 days
   - -20℃ long-term preservation

■ Specimen transportation

Transportation of animal tissue specimen should follow specific tissue relate law, and should be kept between 4- -20℃ during transportation.

10. Nucleic acid extraction protocol

1) Add **200 µl Incubation Buffer** and **10 µl Proteinase K** into 1.5 ml tube.
2) Put **50-100 mg tissue** into 1.5ml tube and mix well.
3) After incubation at **56℃ for 30 min-1 hour** on heater, centrifuged at **8000 RPM for 1 minute**.
4) Carefully remove the aluminum foil from Auto Plate.
5) Use micropipette to load **200 µl supernatant** into column **#1/ #7** of reagent plate.
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 "**6T2-1/7**". The parameters are given in following section.
9) Once the program has ended, take out Auto Plate.
10) Use micropipette to transfer the purified nucleic acid from column **#6/ #12** to a clean tube.
11) Discard used Auto Plate and spin tips into waste recovery can.

11. Program

Program Name:6T2-1/7					
well 1/7	well 2/8	well 3/9	well 4/10	well 5/11	well 6/12
900 (μl)	800 (μl)	800 (μl)	800 (μl)	800 (μl)	130 (μl)

Step	Well	Action	RPM	Time (Second)	CW/CCW (Second)	Temperature	Temperature_ Control
1	3/9	Mixing	3000	60	0	55	YES
2	3/9	Collection	0	30	0	55	YES
3	2/8	Mixing	3000	60	0	55	YES
4	1/7	Mixing	3000	600	0	55	YES
5	2/8	Collection	0	30	0	55	YES
6	1/7	Mixing	3000	600	0	55	YES
7	1/7	Collection	0	30	0	55	YES
8	2/8	Mixing	3000	300	0	45	YES
9	2/8	Collection	0	30	0	45	YES
10	3/9	Mixing	3000	300	0	45	YES
11	3/9	Collection	0	30	0	45	YES
12	4/10	Mixing	3000	300	0	45	YES
13	4/10	Collection	0	30	0	45	NO
14	5/11	Mixing	3000	300	0	45	YES
15	5/11	Collection	0	30	0	45	YES
16	5/11	Vapor	0	300	0	45	YES
17	6/12	Mixing	2700	600	0	45	YES
18	6/12	Collection	0	60	0	45	YES
19	5/11	Mixing	3000	30	0	0	NO

12. Result

- Total DNA yield: 2-5 μg;
- 260/280 ratio of nucleic acid: 1.7-1.9

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%.

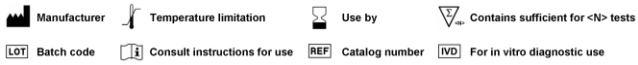
- Reproducibility

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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