TANBead® Nucleic Acid Extraction Kit

Tissue DNA Auto Tube

(for use with the Maelstrom 8)

CE

REF M612S46

(For Professional Use Only)

1. Intended Use

TANBead® Nucleic Acid Extraction Kit (REF M612S46) is suitable for isolating DNA from tissue and cells specimen. Automated nucleic acid extraction can be performed by Maelstrom 8 Autostage. 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 M612S46) provides a simple extraction method to isolate DNA from cells or tissues, the main use of genomic DNA extraction from the easy lysis of tissue and cell. Samples need to be homogenized with lysis buffer and then at room temperature for 10 minutes, followed by Maelstrom 8 for nucleic acid extraction process.

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: ≦2 x 10^6 cells or 20-50 mg tissues

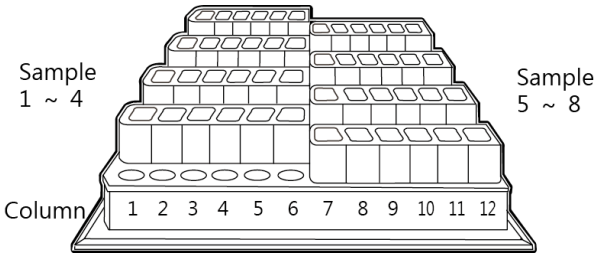
Suitable Instrument: Maelstrom 8 Autostage

4. Reagent Components

REF M612S46		Σ 96 Assays
Auto Tube	96	6 well tube with reagent buffers
Base	2	A rack for 8 Auto Tubes
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 Tube Content

Column	Buffer Solution	Volume
1/7	-	-
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.

6. Precautions

1) Avoid using expired reagents.
2) When the temperature is below 20℃, place the reagent tubes 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 tubes to air. The evaporation would lead to pH change, or influence the extraction effectiveness.
5) Reagents are all colorless and transparent. Colored reagents indicate contamination, please replace a fresh tube before proceeding.
6) Before use, please check the integrity of the reagent tubes, 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 Tubes
   b. Base
   c. Lysis Buffer
   d. Elution 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. Animal sample should be kept between 2-25℃ during transportation.

10. Nucleic acid extraction protocol

■ Preparing samples

a. For cell (≦2 x 10^6 cells)

a-1) Cultured cells are centrifuged at **3000 RPM for 10min** and then remove supernatant thoroughly.

a-2) Resuspend the pellet with **800 µl Lysis Buffer**, and incubation at RT for **10 min**.

b. For tissue (20 -50 mg tissues)

b-1) Use **800 µl Lysis Buffer** to homogenize tissue sample.

Note: If samples are difficult to grind can be ground with liquid nitrogen, then add 800 µl lysis buffer and mix well.

b-2) Mix well and stand for **10 minutes** at room temperature.

b-3) Centrifuged at **8000 RPM for 5 minutes**.

■ Preparing Reagent Tube

1) Prepare the Assembled Auto Tube by inserting Auto Tubes into the Base completely.
2) Carefully remove the aluminum foil from Auto Tubes.
3) Use micropipette to load **800 µl lysate** into column **#1/#7**.
4) Place Auto Tubes completely to the autostage of plate. Make sure that the missing corner of base faces toward the lower left.
5) Mount spin tips on Maelstrom 8.

6) Edit/ Select the program "**612-1/7**". The parameters are given in following section.

7) Once the program has ended, take out Auto Tubes carefully.

8) Use micropipette to transfer the purified nucleic acid from column **#6/ #12** to a clean tube.

9) Discard used Auto Tubes and spin tips.

11. Program

Program Name:612-1/7					
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	60	0	55	YES
2	3/9	Collection	0	30	0	55	YES
3	2/8	Mixing	3000	60	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	300	0	45	YES
16	6/12	Mixing	2700	600	0	45	YES
17	6/12	Collection	0	60	0	45	YES
18	6/12	Collection	0	60	0	45	YES
19	5/11	Mixing	3000	60	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%.

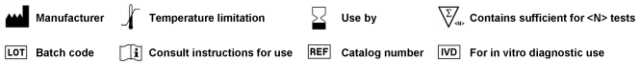
- Reproducibility

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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