TANBead® Nucleic Acid Extraction Kit

Gram Bacteria DNA Auto Plate

(for use with the Maelstrom 8)

CE

REF M61GA46

(For Professional Use Only)

1. Intended Use

TANBead® Nucleic Acid Extraction Kit (REF M61GA46) is intended to isolate nucleic acid from Gram-positive and Gram-negative bacteria specimen. It's a pre-processing system, and the purified nucleic acid is suitable for any molecular biology procedure, including but not limited to PCR (Polymerase Chain Reaction) amplification, restriction digestion, cloning, and sequencing.

2. Purpose

TANBead® Nucleic Acid Extraction Kit (REF M61GA46) provide a simple and convenient method for DNA isolation from Gram-positive and Gram-negative bacteria. The nucleic acid product can be analyzed directly, such as PCR, restriction digestion, PFGE (pulsed-field gel electrophoresis), etc. This kit, with Maelstrom 8, simplifies nucleic acid extraction. With simple treatment of samples, it does not need repetitive centrifugations, reducing time for manual processing, and lowering the risk of cross-contamination

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: Gram-positive and Gram-negative bacteria

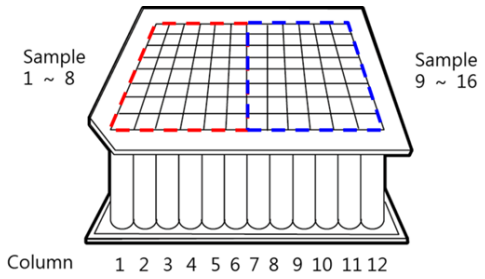
Suitable Instrument: Maelstrom 8 Autostage

4. Reagent Components

REF M61GA46		Σ 96 Assays
Auto Plate	6	96 well plate with reagent buffers
Incubation Buffer	25 ml	Tris buffer, surfactants, pH 8.0
Elution Buffer	20 ml	Nuclease-Free Water
Lysozyme	40 mg	Please add 1 ml Elution Buffer before using and store at -20 ℃
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	500 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℃.
3) The Lysozyme was transported at room temperature. When received, please store at -20 ℃.
4) Repeating of freezing and thawing may cause the activity decay of Lysozyme.

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. Lysozyme
   f. 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) Bacteria can be stored at
   - RT for 12 hours
   - 2-8℃ up to 7 days
   - -80℃ long-term preservation

■ Specimen transportation

Transportation of bacteria specimen should follow specific bacteria transportation related law and should be kept between 2-25℃ during transportation

10. Nucleic acid extraction protocol

1) Centrifuge the bacterial culture at **3000 RPM for 2 minutes**.
2) After remove supernatant thoroughly, add **200 µl Incubation Buffer**, **10 µl Lysozyme** and **10 µl Proteinase K**.
3) After mix well, stay at **60℃ for 20~30 minutes**.
4) Carefully remove the aluminum foil from Auto Plates.
5) Use micropipette to transfer the lysate to column **#1/#7** of Auto Plate.
6) Put 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) Select the program "**61G-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) Put the used Auto Plate and spin tips into the waste recovery can.

11. Program

Program Name:61G-1/7					
well 1/7	well 2/8	well 3/9	well 4/10	well 5/11	well 6/12
700 (μl)	800 (μl)	800 (μl)	800 (μl)	800 (μl)	150 (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	1200	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	120	0	45	YES
9	2/8	Collection	0	30	0	45	YES
10	3/9	Mixing	3000	120	0	45	YES
11	3/9	Collection	0	30	0	45	YES
12	4/10	Mixing	3000	120	0	45	YES
13	4/10	Collection	0	30	0	45	YES
14	5/11	Mixing	3000	120	0	45	YES
15	5/11	Collection	0	30	0	45	YES
16	5/11	Vapor	0	600	0	45	YES
17	6/12	Mixing	3000	300	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%.

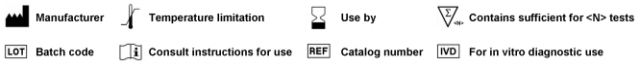
- Reproducibility

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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