



TANBead® Nucleic Acid Extraction Kit

OptiPure FFPE DNA Auto Plate

(for use with the Maelstrom 8)



REF M61PA46-SE

(For Professional Use Only)

1. Intended Use

TANBead® Nucleic Acid Extraction Kit (REF M61PA46-SE) is suitable for isolating nucleic acid from formalin-fixed paraffin-embedded (FFPE) tissue sections. 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 M61PA46-SE) provides an efficient and automated method for DNA extraction from formalin-fixed paraffin-embedded (FFPE) tissue sections. This kit provides a more harmless process of deparaffinization of FFPE without using hazardous organic solvents, such as xylene. After mixing with Lysis Buffer, nucleic acid can be extracted by TANBead Nucleic Acid Extractor with fully automated process and the nucleic acid product can be applied directly to following analysis. Simple and easy extraction process is suitable for high-throughput research and inspection units.

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: 50-60 µm FFPE tissue sections

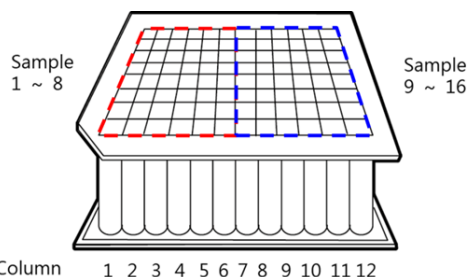
Suitable Instrument: Maelstrom 8 Autostage

4. Reagent Components

REF M61PA46-SE		Σ 96 Assays
Auto Plates	6	96 well plate with reagent buffers
Incubation Buffer	35 ml	Tris buffer, surfactants, pH 8.0
Lysis Buffer	45 ml	Guanidine salt, Tris buffer, surfactants
Elution Buffer	1.5 ml	Nuclease-Free Water
Proteinase K	1 ml x 2	20 mg/ml Proteinase K, store at 4 °C
Spin tips	96	Spin tip
Protocol	1	Instruction guide for user

Auto Plate Content

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



5. Storage and shelf life

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

6. Precautions

- Avoid using expired reagents.**
- When the temperature is below 20°C, place the reagent plate in an oven (preheated 42 - 60°C) 5 to 10 minutes.**
- Avoid vigorous shaking, in order to avoid excessive formation of foam.**
- Do not exposure opened reagents or plates to air. The evaporation would lead to pH change, or influence the**

extraction effectiveness.

- Reagents are all colorless and transparent. Colored reagent indicate contamination, please replace a fresh plate before proceeding.**
- Before use, please check the integrity of the reagent plate, and remember to mount the spin tips into the appropriate position.**
- Please wear a mask and disposable gloves when handling.**
- Remove aluminum foil carefully to avoid splashing.**
- 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 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

- TANBead® Nucleic Acid Extraction Kit
 - Auto Plates
 - Incubation Buffer
 - Lysis Buffer
 - Elution Buffer
 - Proteinase K
 - Spin tips

8. Required but not provided

- TANBead® Nucleic Acid Extraction System Model: Maelstrom 8 Autostage(non-sterile)
- Disposable gloves
- Scissors, utility knives
- Micropipette, disposable tips (10 µl / 200 µl / 1000 µl)
- 1.5 ml microcentrifuge tube
- IPA: Isopropanol for molecular biology

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

■ Sample collection and storage

- FFPE can be stored at
 - 2-25°C for long-term preservation

■ Specimen transportation

Transportation of FFPE specimen should follow specific FFPE tissue transportation related law. FFPE should be kept between 2-25°C during transportation.

10. Nucleic acid extraction protocol

- Put **50-60 µm FFPE tissue sections** into 1.5 ml tube.
- Add **180 µl Incubation Buffer** and **20 µl Proteinase K** into 1.5 ml tube, then vortex.
- Incubate at **70°C for 2 hours** (or until the sample has been completely lysed).
- Add **400 µl Lysis Buffer** into sample, then vortex.
- Mix the sample with **600 µl Isopropanol**.
- Carefully remove the aluminum foil from Auto Plate.
- Divide the mixture **equally** into column **#1/#7** and **#2/#8**.
- Mount spin tips on Maelstrom 8.
- Place Auto Plate completely to the bottom of plate rack. Make sure that the missing corner of Auto Plate is at the lower left.
- Edit/ Select the program "**621-1/7**". The parameters are given in following section.

- 11) Once the program has ended, take out Auto Plate carefully.
- 12) Use micropipette to transfer the purified nucleic acid from column #6/#12 to a clean tube.
- 13) Discard the used Auto Plate and spin tips into the waste recovery can.

11. Program

Program Name: 621-1/7					
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	5/11	Mixing	3000	12	0	0	NO
2	5/11	Collection	0	60	0	0	NO
3	1/7	Mixing	3000	300	0	0	NO
4	1/7	Collection	0	60	0	0	NO
5	2/8	Mixing	3000	300	0	0	NO
6	2/8	Collection	0	60	0	0	NO
7	3/9	Mixing	3000	120	0	0	NO
8	3/9	Collection	0	60	0	0	NO
9	4/10	Mixing	3000	120	0	0	NO
10	4/10	Collection	0	60	0	0	NO
11	4/10	Vapor	0	600	0	0	NO
12	6/12	Mixing	3000	300	0	0	NO
13	6/12	Collection	0	80	0	0	NO
14	5/11	Mixing	3000	12	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°C	Over 90 days
-20°C	28 days
4°C	14 days
25°C	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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