TANBead® Nucleic Acid Extraction Kit

Tissue Total DNA Auto Plate

(For use with the SLA-16 / 32 / E13200 series)

RUO

6T2A46

(For Research Use Only) V5

1. Intended Use

This product is designed for isolating nucleic acid from various samples, which can be performed by using TANBead® Nucleic Acid Extractor and is intended for research use only.

2. Purpose

TANBead® Nucleic Acid Extraction Kit (6T2A46) is suitable for extract nucleic acids of tissues that are difficult to be lysed. Samples need to be first treated with proteinase K, followed by adding samples into Auto Plate and processed by TANBead® Nucleic Acid Extractor (SLA-16/32 and SLA-E13200 series). The protocol dramatically reduces experimental time and enhances consistency and reproductivity of DNA isolation and is suitable for laboratories with high-throughput requirement.

3. The basic principle

The silicon dioxide layer coated on the magnetic beads can adsorb the negatively charged molecules to purify nucleic acids from samples.

4. Specification

Starting Materials	50 ~ 100 mg tissue samples
Elution Volume	90 ~ 130 µL
Typical DNA yield	≥2 µg
Typical A260 / A280	≥1.7

5. Component Supplied with the Kit

Auto Plate	6	Auto Plate with reagent buffers
Proteinase K	1.0 mL x 1	Proteinase K
Elution Buffer	1.5 mL x 1	Nuclease-Free Water
Incubation buffer	25 mL x 1	Tris buffer, surfactants, pH 8.0
Strip	12	8-channel strip
Protocol	1	Instruction guide for user

6. Auto Plate Content

Well	Buffer	Volume (µL)
1 / 7	Lysis Buffer	700
2 / 8	Washing Buffer 1	800
3 / 9	Magnetic Beads	800
4 / 10	Washing Buffer 2	800
5 / 11	Washing Buffer 2	800
6 / 12	Elution Buffer	130

7. Kit Storage and Shelf Life

1) Components under room temperature (15~35°C) can be stored until the expiration date labeled on the box.
2) The proteinase K is transported at room temperature. Upon received, please store proteinase K at 2~8°C.

8. Precautions

1) For research use only.
2) Avoid using expired reagents.
3) When the temperature is below 20°C, place the Auto Plates / Auto Tubes in an oven (preheated 42~60°C) 5 to 10 minutes.
4) Avoid vigorous shaking, in order to avoid excessive formation of foam.
5) Carefully remove aluminum foil to avoid splashing.
6) Do not expose the opened reagents or Auto Plates / Auto Tubes to air. The evaporation would lead to pH change, or effect on the extraction effectiveness.
7) Please check the integrity of the Auto Plates / Auto Tubes and remember to insert the strips into the appropriate position of the suitable instrument before operating them.
8) Please wear a mask and disposable gloves when handling.
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 occurs, please report to the manufacturer and the competent authority of the member state in which the user and/or the patient is established.

9. Materials required, Not Supplied

1) TANBead® Nucleic Acid Extraction System
   Model: SLA-16 / 32 / E13200 series (non-sterile)
2) Disposable gloves
3) Scissors, utility knives
4) Micropipette, disposable tips (10 µL / 200 µL / 1000 µL)
5) 1.5 mL microcentrifuge tube
6) 15 mL / 50 mL conical tube

10. Sample Transportation and Storage

■ **Sample storage**

1) Specimen storage
   a. Room temperature for 24 hours
   b. 2 – 8 °C up to 7 days
   c. -20°C for long-term preservation

■ **Specimen transportation**

Transportation of animal tissue specimen should follow specific infectious biological materials transportation related law.

11. Nucleic Acids Extraction Protocol

Before operating, turn on the warm-up system of TANBead® Nucleic Acid Extractor, if it is equipped with temperature controller, please setting at **45°C.**

1) Place 50 – 100 mg minced tissue into 1.5 mL tube then add **200 µL incubation buffer** and **10 µL Proteinase K** then mix well.
2) After incubated at **56°C for 1 – 2 hours** on heater, centrifuged with **10000 RPM for 5 minutes.**
3) Carefully remove the aluminum foil on the Auto Plate.
4) Add **200 µL supernatant** into column **#1 / #7** (column filled with lysis buffer).
5) Push Auto Plates completely to the bottom of the plate the rack. Make sure that the chamfer of the plate is at the lower left.
6) Push strips completely to the bottom of strip rack frame.
7) Close the door panel.
8) Select the program "**L-BNA-PK-AUTO**". The parameters are given in following section.
9) Carefully remove the Auto Plates when the program is finished.
10) Use micropipette to transfer the purified nucleic acids from column **#6 / #12** to a clean tube.
11) Discard used Auto Plates and strips into the waste recycling bin.

12. Program

■ **SLA-16 / 32 series**

Program Name: L-BNA-PK-AUTO					Model: SLA-16 / 32 series			
Step	Well	Mixing (M)	Collect (S)	Rod	Mixing speed	Volume (μL)	Pause	Vapor (M)
1	3	1	90	ON	Medium	800	OFF	0
2	2	1	0	OFF	Medium	800	OFF	0
3	1	10	0	OFF	Low	900	OFF	0
4	2	0	90	ON	Medium	800	OFF	0
5	1	10	90	ON	Medium	900	OFF	0
6	2	5	90	ON	Medium	800	OFF	0
7	3	5	90	ON	Medium	800	OFF	0
8	4	5	90	ON	Medium	800	OFF	0
9	5	5	90	ON	Medium	800	OFF	10
10	6	10	120	ON	Medium	200	OFF	0
11	5	1	0	OFF	Medium	800	OFF	0
12	0	0	0	OFF	Medium	0	OFF	0

■ **SLA-E13200 series**

Program Name: L-BNA-PK-AUTO						Model: SLA-E13200 series			
Step	Well	Temp (°C)	Mixing (M)	Collect (S)	Rod	Mixing speed	Volume (μL)	Pause	Vapor (M)
1	3	45	1	90	ON	Medium	800	OFF	0
2	2	45	1	0	OFF	Medium	800	OFF	0
3	1	45	10	0	OFF	Low	900	OFF	0
4	2	45	0	90	ON	Medium	800	OFF	0
5	1	45	10	90	ON	Medium	900	OFF	0
6	2	45	5	90	ON	Medium	800	OFF	0
7	3	45	5	90	ON	Medium	800	OFF	0
8	4	45	5	90	ON	Medium	800	OFF	0
9	5	45	5	90	ON	Medium	800	OFF	10
10	6	45	10	120	ON	Medium	200	OFF	0
11	5	NA	1	0	OFF	Medium	800	OFF	0
12	0	NA	0	0	OFF	Medium	0	OFF	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**

Storage Conditions	DNA stability
-80°C	Over 90 days
-20°C	28 days
4°C	14 days
25°C	2 days
Freeze-thaw	5 times

14. Explanation of Symbols

	Manufacturer		Consult instructions for use
15°C 35°C	Temperature limit	Σ	Contains sufficient for test
REF	Catalogue number		Caution
LOT	Batch code	NON STERILE	Non-sterile
	Do not re-use		Keep away from sunlight
	Date of manufacture		Use-by date
RUO	For research use only		

Taiwan Advanced Nanotech Inc.
1-4F., No. 8, Ln. 10, Sec. 2, Zhongfu Rd., Zhongli Dist., Taoyuan City 320, Taiwan (R.O.C)
Tel: +886-3-4556599 Revised: 2022-06-07 V5