TANBead® Nucleic Acid Extraction Kit

Dried Blood Spot DNA Auto Plate

(for use with the SLA-16/ 32 and SLA-E132 Series)

RUO

61EA46-BS

(For Research Use Only) V2

1. Intended Use

TANBead® Nucleic Acid Extraction Kit (61EA46-BS) is suitable for isolating nucleic acids from dried blood spot samples. Automated nucleic acids extraction can be performed by using a magnetic bead-based technology of TANBead® Nucleic Acid Extractor (SLA-16/ 32, SLA-E132 series). Purified nucleic acids can be analyzed by downstream applications including real-time PCR and other clinical analysis.

2. Purpose

TANBead® Nucleic Acid Extraction Kit (61EA46-BS) has excellent performance and can be applied to the dried blood spot samples. Samples should be processed through an initial Proteinase K lysis. Subsequently, samples are processed by TANBead® Nucleic Acid Extractor (SLA-16/ 32, SLA-E132 series) for nucleic acids extraction. The nucleic acid products are of high purity with extremely low salt content, no contaminants of proteins and inhibitors and can be directly applied for following tests, such as the polymerase chain reaction(PCR), enzyme reactions and other clinical tests.

Principle

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

Sample Types: 1 piece of blood dot(ϕ = 6mm)

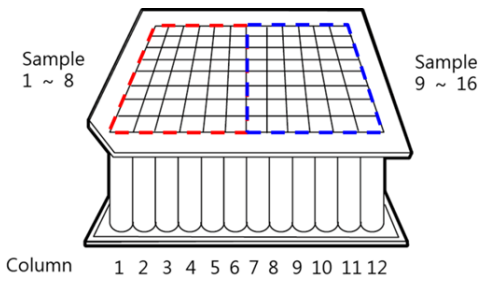
Suitable Instrument: SLA-16/ 32, SLA-E132 Series

3. Kit Components

61EA46-BS		96 Assays
Auto Plates	6	96 well plate with reagent buffers
Incubation Buffer	50 mL	Guanidine salt, Tris buffer, surfactants
Elution Buffer	1.5 mL	Nuclease-Free Water
Proteinase K	1.0 mL	Store at 4°C
Strips	12	8-channel strip
Protocol	1	Instruction guide for user

Auto Plate Content

Column	Buffer Solution	Volume
1/ 7	Lysis Buffer	400 µL
2/ 8	Washing Buffer 1	800 µL
3/ 9	Magnetic Beads	800 µL
4/ 10	Washing Buffer 3	1000 µL
5/ 11	Washing Buffer 3	1000 µL
6/ 12	Elution Buffer	155 µL



4. 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 was transported at room temperature. When received, please store at 4°C

4. Precautions

1) Avoid using expired reagents.
2) When the temperature is below 20°C, place the auto plates in an oven (preheated 42 - 60°C) 5 to 10 minutes.
3) Avoid vigorous shaking, to prevent excessive formation of foam.
4) Do not expose the opened reagents or plates to air. The evaporation would lead to pH change or effect on the extraction effectiveness.
5) The reagents are all colorless and transparent. Colored reagents indicate contamination, please replace it with a fresh plate before proceeding.
6) Please check the integrity of the reagent plates, and remember to insert the strips into the appropriate position of the suitable instrument before operating them.
7) Please wear a mask and disposable gloves when handling.
8) Carefully remove aluminum foil 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 occurs, please report to the manufacturer and the competent authority of the member state in which the user and/ or the patient is established.

5. Materials required but not provided

1) TANBead® Nucleic Acid Extraction System
   Model: SLA-16/ 32 and SLA-E132 Series (non-sterile)
2) Disposable gloves
3) Scissors, utility knives
4) Micropipette, disposable tips (10 µL/ 200 µL/ 1000 µL)

6. Nucleic acids extraction protocol

Turn on the warm-up system of TANBead® Nucleic Acid Extractor before operating, if it is equipped with temp. controller, please setting at 70°C

1) Carefully remove the aluminum foil on the Auto Plate.
2) Use micropipette to load ①**400µL Incubation buffer** ②**10µL Proteinase K** and ③**Blood spot** into column **#1/ #7** of Auto Plate.
3) Place the Auto Plate completely to the bottom of plate rack. Make sure that the missing corner of Auto Plate faces toward the door panel.
4) Push strips completely to the bottom of strip rack frame.
5) Close the door panel.
6) Select a program "**61E-BS**". The steps are given in following section.
7) Once the program has ended, buzzer shall alarm, take out Auto Plate carefully.
8) Use micropipette to transfer the purified nucleic acids from **column #6/ #12** to a clean tube.
9) Discard used Auto Plate and strips.

7. Program

■ **SLA-16/ 32 and SLA-E132 Series**

Program Name: 61E-BS						Model: SLA-16/ 32, SLA-E132 series			
Step	Well	Temp (°C)	Mixing (M)	Collect(S)	Rod	Mixing Speed(RPM)	Volume(µL)	Pause	Vapor(M)
1	3	70	0.5	30	ON	Medium	800	OFF	0
2	2	70	0.5	0	OFF	Medium	800	OFF	0
3	1	70	20	0	OFF	Low	900	OFF	0
4	2	60	0	30	ON	Medium	800	OFF	0
5	1	60	10	60	ON	Medium	900	OFF	0
6	2	45	2	60	ON	Medium	800	OFF	0
7	3	45	2	60	ON	Medium	800	OFF	0
8	4	45	2	60	ON	Medium	1000	OFF	0
9	5	55	2	60	ON	Medium	1000	OFF	15
10	6	55	5	120	ON	Medium	150	OFF	0
11	5	NA	1	0	OFF	Medium	1000	OFF	0
12	0	NA	0	0	OFF	Fast	0	OFF	0

8. 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 acids 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 acids 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

9. Explanation of symbols

	**Manufacturer**		**Consult instructions for use**
	**Temperature limitation**		**Contains sufficient for <N> test**
	**Use by date**		**For Research Use Only**
	**Catalog number**		**Caution**
	**Batch code**		**Non-sterile**
	**Do not use if package is damaged**		**Keep away from sunlight**
	**Keep dry**		**Do not re-use**