



Stool DNA Purification Kit (Pre-filled)

Catalog Number U0433

96 assays

Version: 01

Intended for research use only

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Introduction

Background

Stool DNA Purification Kit (Pre-filled) is a nucleic acid purification kit based on magnetic bead technology by using with corresponding Spiraltor™ 48 (Cat#: M0025) , which can automatically isolate and purify high-quality microbial and host DNA from stool of human and other species. Moreover, additional step in pretreatment can be performed to enrich the desired extraction products of microbiome. The isolated DNA is ready for downstream applications such as PCR, Real-time PCR and microbiome profiling. The kit is intended for use by technicians, physicians, and biologists with well-trained in molecular biological techniques, the techniques of magnetic bead purification and in vitro diagnostic procedures. Any diagnostic results generated by using the sample preparation procedure in conjunction with any downstream diagnostic assay should be interpreted related to other clinical or laboratory findings. The kit is not limited to any specific disorder, condition, or other additional accompanying diagnostics. It is applicable for all population.

Principle of the Assay

The silicon dioxide layer coated on the magnetic beads can absorb negative charged molecular in order to purify nucleic acid from samples.

- ✓ Specification
 - Starting Materials: 50 mg stool
 - Elution Volume: 50-80 μ L
 - Typical DNA yield: $\geq 2 \mu$ g

General Information

Materials Supplied

List of component

Item	Description	Quantity
Auto Plate	96 well plate with reagent buffers	6 plates
Proteinase K	Proteinase K, store at 4°C.	1 mLx2
Elution Buffer	Nuclease-free water	1.5 mL
Incubation Buffer-B845	Phosphate buffer for omnivore use	120 mL
Incubation Buffer-B871	Phosphate buffer for herbivore use	120 mL
Strip	Spin tip assembled box	96 tips tips

Auto Plate Content

Well	Buffer	Volume (µL)
1/7	Lysis Buffer	600
2/8	Washing Buffer 1	800
3/9	Washing Buffer 2	800
4/10	Washing Buffer 2	800
5/11	Magnetic Beads	800
6/12	Elution Buffer	80

Storage Instruction

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

Materials Required, Not Supplied

- ✓ Nucleic Acid Extraction System, Model: Spiraltor™ 48 (Catalog # : M0025)
- ✓ Disposable gloves
- ✓ Scissors, utility knives
- ✓ Micropipette, disposable tips (10 µL / 200 µL / 1000 µL)
- ✓ 1.5 mL microcentrifuge tube
- ✓ 15 mL / 50 mL conical tube

Precautions for Use

1. Research use only.
2. Avoid using expired reagents.
3. When the temperature is below 20°C, place the Auto Plates 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 to air. The evaporation would lead to pH change, or effect on the extraction effectiveness.
7. Please check the integrity of the Auto Plates and remember to mount the spin tips 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.

Sample Collection, Transportation, and Storage

Sample collection and storage

Stool sample can be stored at

1. RT for 24 hours
2. 2~8°C up to 7 days
3. -20°C long-term preservation

Specimen transportation

Transportation of stool specimen should be followed by specific infectious biological materials transportation-related law.

Assay Protocol

Assay Procedure

1. Carefully remove the aluminum foil from Auto Plate.
2. Add 500 μ L incubation buffer-B845/B871 and 20 μ L Proteinase K into 1.5 mL tube.
Note: Incubation buffer-B845: For Omnivore Use; Incubation buffer-B871: For Herbivore Use.
3. Add about 50 mg stool into 1.5 mL tube and mix well.
4. Incubate at 60°C for 10 minutes on heater.
5. For Bacterial gDNA: Centrifuged at 10,000 x g for 1 minute.
For Human gDNA: Skip this step and continue to the next step.
6. Set up spin tips. Go to Tip page and press the mount tips region.
7. Transfer the supernatant into column #1/#7 of Auto Plate.
Note: If samples are difficult to transferred, please use a cut off pipette tip and pipette gently.
8. Push Auto Plates completely to the bottom of plate rack. Make sure that the chamfer of the plate is at lower left.
9. Select the program: "6SC". The parameters are given in following section.
10. When the program ends, take out the assembled auto plate carefully.
11. Use micropipette to transfer the purified nucleic acids from column #6/ #12 to a clean tube.
12. Discard the used Auto Plates and spin tips the waste recycling bin.

Program

Program Name: 6SC				Model: Spiraltor™ 48			
Temp 1	Temp 2						
40	40						
Well	Name	Volume	Action	Mixing	Collect		
1/7	LB	900	Rev. U/D	Low	Low		
2/8	WB1	800	For.	Low	Low		
3/9	WB2	800	For.	Low	Low		
4/10	WB2	800	For.	Low	Low		
5/11	MB	800	For.	Low	Low		
6/12	EB	150	For.	Low	Low		
Step	Well	Temp (°C)	Mixing (M)	Mixing Speed (RPM)	Collect (M)	Vapor (M)	Pause
1	5	-	0.5	2500	0.5	0	Off
2	1	55	12	2500	0.5	0	Off
3	2	-	2	2500	0.5	0	Off
4	3	-	1	1500	0.5	0	Off
5	1	-	1	1500	0.5	10	Off
6	6	Off	5	2500	1.5	0	Off
7	3	-	0.5	2500	0	0	Off

Result

Nucleic acid product purified by this kit can perform qualitative / quantitative analysis of specific genes by PCR, RT-PCR, Q-PCR or qRT-PCR.

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	10 times

Resources

Plate Layout

