Magnetic Beads Stool DNA Extraction Plate Kit

For research use only

Catalogue Number
MSTP096

Sample: 100-200 mg fresh/freeze stool samples
100-200 µl stool samples stored in preserver
Format: 96 Well Stool gDNA Extraction Plates
Equipment: Geneaid SYNC Nucleic Acids Extraction System
Operation time: 60 minutes/32 samples
Elution Volume: 100 µl

Introduction

Geneaid Magnetic Beads Stool DNA Extraction Plate Kit was designed for high-throughput purification of high-quality of genomic DNA from microorganisms, such as bacteria and fungi in stool samples. The stool samples are homogenized and disrupted using a lysis buffer and ceramic beads. Genomic DNA is bound to the surface of the magnetic beads and released using a proprietary buffer system. The 96 well gDNA extraction plates can be easily adapted to Geneaid SYNC Nucleic Acids Extraction System (S032) and other similar automated extractors. The purified DNA can be used in qPCR and a variety of other downstream applications.

Kit Contents

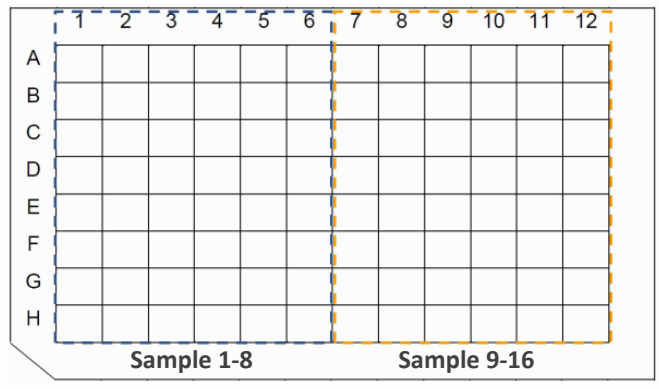
Component	MSTP096	Description
Extraction Plates	6	96 well plate with reagent buffers
MST1 Buffer	60 ml	For stool sample homogenization
MST2 Buffer	15 ml	For PCR inhibitor removal
Beadbeating Tube (Type C)	96	For stool sample homogenization
Strip	12	8-channel strip
Protocol	1	Instruction manual for user

Storage conditions

Components under room temperature (15~35°C) can be stored until the expiration date labeled on the box.

Extraction Plate Contents

Column	Buffer	Volume
# 1/7	Binding Buffer	600 µl
# 2/8	Wash Buffer 1	800 µl
# 3/9	Wash Buffer 1	800 µl
# 4/10	Wash Buffer 2 / Magnetic Beads	800 µl
# 5/11	Wash Buffer 2	800 µl
# 6/12	Elution Buffer	100 µl



Important before use

- Inspect the completeness of the Extraction Plates and Strips.
- Do not shake the Extraction Plates vigorously to avoid the excess foam formation.
- Remove the aluminum foil carefully to avoid splashing of the reagent solution.
- After removing the aluminum foil, do not expose plates to air for a long time to avoid evaporation and changing pH then affecting purification efficiency.
- Buffers contain chaotropic salt. During operation, always wear a lab coat, disposable gloves, protective goggles and (anti-fog) procedure mask. Guanidine salts can form highly reactive compounds when combined with bleach. DO NOT add bleach directly to the sample-preparation waste.

Magnetic Beads Stool DNA Extraction Plate Kit Protocol

Sample Preparation	● Add **600 µl of MST1 Buffer** to a **Beadbeating Tube**. ● Transfer 100-200 mg of stool samples or 100-200 µl of preserver containing stool samples to the Beadbeating Tube. **Note:** Very dry or fiber rich animal stool samples will absorb MST1 buffer. In this case, reduce the stool amount to 60-80 mg. Human stool samples may contain undigested food, such as crop or fruit husks. These particles should not be transferred. ● Vortex the beadbeating tubes briefly then incubate at 70ºC for 5-10 minutes. ● Attach the Beadbeating Tubes horizontally to a vortex with tape or adapter. Vortex at maximum speed for 10 minutes at room temperature. ● Centrifuge the Beadbeating Tubes at 8,000 x g for 2 minutes at room temperature. Transfer 450 µl of clear supernatant to a clean 1.5 ml centrifuge tube. ● Add **150 µl of MST2 Buffer**, mix by vortex and incubate at 0-4ºC for 5 minutes. ● Centrifuge at 16,000 x g for 3 minutes at room temperature to precipitate PCR inhibitors. Take 300 µl of clear supernatant as sample for the automatic gDNA extraction process. **Note:** Be cautious not to disturb the pellet. Moreover, due to the high concentration of salts in fecal preservation solutions, certain impurities like humic acid may fail to precipitate within the pellet. In such cases, exercise care to refrain from aspirating darker-colored impurities from the liquid surface to prevent their presence in the final purified nucleic acid products.
Automatic gDNA Extraction	● Carefully remove the aluminum foil from **Extraction Plate**. ● Transfer **300 µl of clear supernatant** into column #1/#7 of Extraction Plate. ● Turn on the **Geneaid SYNC Nucleic Acids Extraction System**. ● Place the Extraction Plates on the plate rack of the Geneaid SYNC Nucleic Acids Extraction System and push the plate rack back into the extraction system. **Note:** Make sure that the missing corner of Extraction Plate faces toward the door panel. ● Push **strips** completely to the bottom of strip rack frame and close the door panel. ● Select the program "**MSTP**" and start to run. Please see the program below. ● Once the program has ended, buzzer shall alarm. Take out Extraction Plate carefully. ● Place the Extraction Plate on a 96 Magnetic Stand. Transfer the purified nucleic acid from column #6/ #12 to clean tubes. The purified nucleic acid can be used for subsequent experiments such as real-time PCR immediately or store at -20°C for long time. **Note:** The used Extraction Plates and Strips should be regarded as medical waste with risk of biological infection and properly disposed of in accordance with national regulations.

MSTP Program

Run	Well No. (0-6)	Name	Standby (0-30Min)	Mix (1-30Min)	Volume (100-1000µl)	Mix Speed (1-3)	Mag (0-120Sec)	Temp. (40-80˚C)	Pause
☑	4	Bead Transfer	0	1	800	2	30	40	☐
☑	1	Binding	0	8	900	2	60	40	☐
☑	2	Wash 1	0	3	800	2	30	40	☐
☑	3	Wash 2	0	3	800	2	30	40	☐
☑	4	Wash 3	0	2	800	2	30	40	☐
☑	5	Wash 4	0	2	800	2	30	40	☐
☑	6	Elution	5	5	100	2	60	60	☐
☑	5	End	0	1	800	2	0	0	☐