Magnetic Beads Bacteria DNA Extraction Plate Kit

For research use only

Catalogue Number

MBBP096

Sample: Gram-positive and Gram-negative bacteria
Format: 96 Well Bacteria gDNA Extraction Plates
Equipment: Geneaid SYNC Nucleic Acids Extraction System
Operation time: 70 minutes/32 samples
Elution Volume: 100 µl

Introduction

Geneaid Magnetic Beads Bacteria DNA Extraction Plate Kit was designed for high-throughput purification of high-quality of genomic DNA from Gram-negative (-) and Gram-positive (+) bacteria. The Magnetic Beads Bacteria DNA Extraction Plate Kit includes Bacteria Lysis Buffer, Lysozyme, Proteinase K and when combined, will efficiently lyse bacterial cell walls consisting of the peptidoglycan layer. 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	MBBP096	Description
Extraction Plates	6	96 well plate with reagent buffers
Bacteria Lysis Buffer	30 ml	For bacterial cells lysis
GB Buffer	15 ml	For bacterial cells lysis
Proteinase K[1] (Add ddH_2O)	11 mg (1.1ml)	For bacterial cells lysis
Lysozyme[2]	55 mg	For bacterial cells lysis
RNase A (10 mg/ml)[3]	250 µl	For RNA removal
Strip	12	8-channel strip
Protocol	1	Instruction manual for user

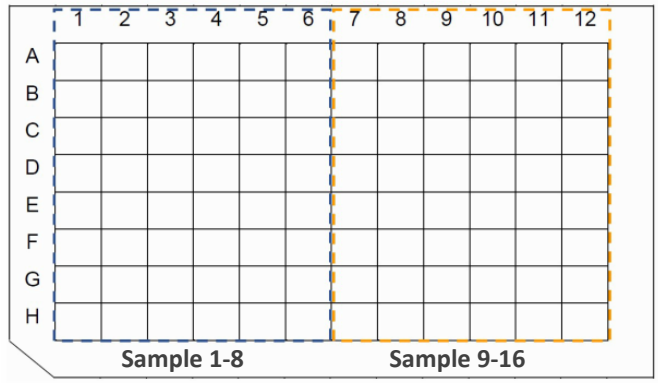
[1] Add ddH_2O to Proteinase K (see the bottle label for volume) then vortex to ensure Proteinase K is completely dissolved. Check the box on the bottle. For extended periods, the ddH_2O and Proteinase K mixture should be stored at 4ºC.
[2] Lysozyme is shipped room temperature and should be stored at -20ºC for extended periods after receiving the kit.
[3] RNase A is shipped room temperature and should be stored at 2-8ºC for extended periods after receiving the kit.

Storage conditions

Extraction plates and buffers 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 Bacteria DNA Extraction Plate Kit Protocol

Sample Preparation	• Lysozyme preparation: For 16 samples, weight and transfer **8.5 mg of Lysozyme powder** to a 15 ml falcon tube. Add **3.4 ml of Bacteria Lysis Buffer** to the tube and vortex briefly to dissolve the lysozyme completely. • Transfer bacteria cells (up to 2 x 10^9) to a 1.5 ml microcentrifuge tube. Centrifuge for 1 minute at 14-16,000 x g then discard the supernatant. • Transfer **200 µl of Bacteria Lysis Buffer containing lysozyme** and **10 µl of Proteinase K (make sure ddH_2O was added)** to the sample in the 1.5 ml microcentrifuge tube then re-suspend the cell pellet by vortex or pipette. • Incubate at 55ºC for 20 minutes. During incubation, invert the tube every 10 minutes. • Add **100 µl of GB Buffer** to the sample then mix by vortex. • Add **2 µl of RNase A** to the sample then mix by vortex. Incubate at room temperature for 5 minutes. Note: **DO NOT** add RNase A directly to the GB Buffer, as its activity could be inhibited.
Automatic gDNA Extraction	• Carefully remove the aluminum foil from **Extraction Plate**. • Transfer **300 µl of sample mixture** 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 "**MBBP**" 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.

MBBP 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	60	60	☐
☑	2	Bead active	0	1	800	2	0	60	☐
☑	1	Lysis	0	5	900	2	0	60	☐
☑	2	Bead Transfer	0	1	800	2	30	60	☐
☑	1	Binding	0	7	900	2	30	60	☐
☑	2	Wash 1	0	2	800	3	30	60	☐
☑	3	Wash 2	0	2	800	3	30	60	☐
☑	4	Wash 3	0	2	800	3	30	60	☐
☑	5	Wash 4	0	2	800	3	30	60	☐
☑	6	Elution	5	5	100	2	60	60	☐
☑	5	End	0	1	800	2	0	0	☐