RUO

REF	G2MBR4-0646	50 Tests
	G2MBR4-0647	250 Tests

MAGNXT

Bacterial DNA Extraction Kit

Intended Use

The MagNXT Bacterial DNA Extraction Kit is designed for the rapid and efficient isolation of high-quality DNA from bacterial cells, suitable for various downstream applications. This kit typically provides a streamlined protocol for processing bacterial culture samples, ensuring reliable and reproducible bacterial DNA extraction.

Intended User

The MagNXT DNA Extraction Kit is designed for use by experienced professionals, including research scientists and clinical laboratory professionals, who have knowledge of DNA extraction and handling. Users are responsible for following proper laboratory protocols and safety guidelines.

Test Principle

Bacterial cells are lysed to release their DNA, using enzymes and detergents. Proteins are denatured and removed, allowing the DNA to be released. The released DNA binds to a solid phase, i.e., Magnetic Beads, in the presence of salts. Impurities are removed through washing steps, leaving only the DNA bound to the Magnetic Beads. The purified DNA is then eluted from the Magnetic Beads using a low-salt buffer or water. MagNXT Bacterial DNA Extraction Kit efficiently and effectively extracts high-quality DNA from bacterial cells, suitable for downstream applications like PCR, sequencing, and genotyping.

Summary

MagNXT Bacterial DNA Extraction Kit is designed for the rapid preparation of genomic DNA from viable bacterial cells. Purification is based on Magnetic Beads based separation. It allow isolation of gDNA from both Gram negative and Gram positive bacterial cultures. The kit combines the features and advantages of Magnetic Beads binding and eliminates the need of hazardous compounds such as phenol/chloroform extraction or alcohol precipitation and involves minimal handling.

The purified DNA is suitable for various down-streaming molecular biology applications such as PCR, Cloning, Next Generation Sequencing and so on.

Storage, Operating Conditions and Stability

- The kit has a shelf life of 18 months from the date of manufacturing.
- The test kit and its component are stable until the expiration date mentioned on the kit box.
- All the kit Components is shipped and stored at 4°C to 30°C except Lysozyme is shipped and stored at -30°C to -10°C.
- RNaseA (10 mg/ml), which is shipped at 4°C to 30°C and stored at 2°C to 8°C.
- Magnetic Bead Particles, which is shipped at 4°C to 30°C for long term storage should be stored at 2°C to 8°C.

Reagents Provided
Table 1a. (For 50 Tests)

Kit Contents	Kit Content Code	Kit Content Quantity G2MBR4-0646
Magnetic Bead Particles	G2MBR3-1515-1	1 X 1 ml
Buffer DLB	G2MBR3-1516-1	1 X 25 ml
Buffer DLB-20	G2MBR3-1517-1	1 X 1.2 ml
Buffer W1	G2MBR3-1518-1	1 X 20 ml
Buffer W2	G2MBR3-1519-1	1 X 20 ml
Proteinase K	G2MBR3-1520-1	1 X 30 mg
Protease Dissolve Buffer	G2MBR3-1521-1	1 X 4 ml
Buffer EB	G2MBR3-1522-1	1 X 10 ml
RNaseA	G2MBR3-1524-1	1 X 250 µl

Reagents Provided
Table 2a. (For 250 Tests)

Kit Contents	Kit Content Code	Kit Content Quantity G2MBR4-0647
Magnetic Bead Particles	G2MBR3-1515-2	1 X 5 ml
Buffer DLB	G2MBR3-1516-2	1 X 110 ml
Buffer DLB-20	G2MBR3-1517-2	1 X 6 ml
Buffer W1	G2MBR3-1518-2	1 X 90 ml
Buffer W2	G2MBR3-1519-2	2 X 45 ml
Proteinase K	G2MBR3-1520-2	1 X 120 mg
Protease Dissolve Buffer	G2MBR3-1521-2	1 X 10 ml
Buffer EB	G2MBR3-1522-2	1 X 30 ml
RNaseA	G2MBR3-1524-2	1 X 1.25 ml

Reagents Provided
Table 1b. (For 50 Tests)

Kit Contents	Kit Content Code	Kit Content Quantity G2MBR4-0646
Lysozyme	G2MBR3-1523-1	1 X 1 ml

Reagents Provided
Table 2b. (For 250 Tests)

Kit Contents	Kit Content Code	Kit Content Quantity G2MBR4-0647
Lysozyme	G2MBR3-1523-2	1 X 5 ml

Materials Required But Not Provided

- Water bath or Heat block
- Micropipettes
- Disposable barrier (Filter) pipette tips
- 1.5 ml micro-centrifuge tubes
- Table top Micro-centrifuge
- Ethanol (96-100%)
- Personal protective equipment (Aprons, disposable gloves, goggles etc).

Instructions Before Use

- Preheat a water bath or heating block to 56°C.
- Buffer W1 and Buffer W2 are supplied as concentrates. Before using for the first time, add the appropriate volume of molecular biology grade ethanol (96-100%) as indicated on the bottle and shake thoroughly. Buffer W1 and Buffer W2 are stable for up to 18 months after the addition of ethanol when stored closed at room temperature (4 °C to 30°C).
- Add Protease Dissolve Buffer into absolute amount of Proteinase K as mentioned on the label and store it at -20°C.

Procedure

- Isolation of Genomic DNA from Gram positive and Gram negative bacteria.

Protocol

A. DNA Purification from Bacteria

1) Collect 1.2 ml of an overnight bacterial broth culture in a 1.5 ml microcentrifuge tube and centrifuge it for 1 min at 13,000x*g* at room temperature (4°C to 30°C). Discard the supernatant.

2) Repeat the step 1 (If the volume of the pellet from the previous step is low).

3) Break the pellet by gentle finger tap.

4) Add 400 µl Buffer DLB to the pellet, 20 µl Lysozyme solution and 5 µl RNaseA followed by incubation at room temperature (4°C to 30°C) for 20 min.

5) Add 20 µl Proteinase K and 20 µl DLB-20 followed by incubation at 65°C for 30 min.

6) Add 20µl MagPure Particles followed by 0.5 volume of (96-100%) absolute ethanol. Mix by gentle vortex for 15 sec. Leave the microcentrifuge tubes at room temperature undisturbed for 3-5 min, invert and mix several times. Transfer to a magnetic leave it undisturbed, and stand for ~2 min to adsorb the magnetic beads after short spin. Carefully aspirate all the solutions.

7) Add 500µl Buffer W1 and vortex for 10 sec. Transfer to a magnetic stand and leave it undisturbed for 1 min to attract magnetic beads after short spin. Completely remove and discard the cleared supernatant.

8) Add 500µl Buffer W2 and vortex for 10 sec. Transfer to a magnetic stand and leave it undisturbed for 1 min to attract magnetic beads after a short spin. Completely remove and discard the cleared supernatant.

9) Repeat step 8.

10) Centrifuge briefly, aspirate all solution, and air dry for 5-10 min.

11) Add 30-50µl Buffer EB or Nuclease Free Water and vortex to disperse the magnetic beads. Leave the tubes undisturbed for 5-10 min, vortex several times to dissolve the nucleic acid.

12)Transfer to magnetic stand and let stand for 3 min after short spin or until the solution becomes clear. Transfer the supernatant solution containing DNA to a new 1.5ml microcentrifuge tube, being careful not to touch the magnetic beads.

13) The purified DNA sample can be stored at 4°C for a few days. It is recommended that the eluted bacterial DNA samples be stored at -20°C or -80°C for long-term storage.

Symbols for Use in the Labeling	
Symbols	**Definition**
	KEEP AWAY FROM SUNLIGHT
	TEMPERATURE LIMIT
	RESEARCH USE ONLY
	UPWARD
	CONSULT INSTRUCTIONS FOR USE
	BATCH CODE
	CATALOGUE NUMBER
	USE BY DATE
	DATE OF MANUFACTURE
	MANUFACTURER
	CONTAINS SUFFICIENT FOR <n> TESTS
	CAUTION
	DO NOT USE IF PACKAGE IS DAMAGED

Genes 2Me Private Limited Plot No - 33 Sector-5, IMT Manesar, Gurugram, Haryana - 122052 (India), Telephones No.: +91 18001 214030 / +91 88000 23600 / +91 8800821778, Email: contact@genes2me.com