Microbial DNA Magnetic Extraction Kit

Catalog Number	Kit Size
TBS6025-100	100 assays
TBS6025-200	200 assays

DESCRIPTION

Microbial DNA Magnetic Extraction employs magnetic particle-based purification technology to isolate and purify genomic DNA from bacterial and aspergillus contaminated food, plant, herbal, cannabis matrices, and other infused products. It is a simple and fast procedure with a bind-wash-elute process, does not need centrifugation or vacuum manifolds to remove the aqueous phase. The approach can allow selective binding of DNA in the presence of high concentrations of salt, DNA bound to a magnetic bead can be easily separated from the aqueous phase using a magnet. This method is ideal for automation of high throughput processing, as they eliminate the need for centrifugation and other time-consuming steps.

KEY FEATURES

❖ High efficiency: High yield rate.

❖ Simple and fast: Just binding-washing-elute.

❖ No organic solvent.

APPLICATIONS

Used for genomic DNA extraction from microbials such as bacterial, and aspergillus contaminated food, plant, herbal, cannabis matrices, and other infused products.

KIT CONTENTS

Name	100Assays	200assays	Store
Lysis Buffer 1	20 mL	40 mL	RT
Binding Buffer 2	20 mL	40 mL	4℃
Elute Buffer 3	10 mL	20 mL	RT

RT is room Temperature.

STORAGE CONDITIONS

The kit is shipped on RT and stored RT besides Binding Buffer for long-term storage. Shelf life of 12 months after receipt.

MATHERIAL SUPPLIED BY THE USER

96 Well plate magnet (TBS12001)
96 Well extraction plate (TBS12003)
Whirl-Pak Bag (Nasco #B00679)
Chloroform (Fisher Scientific, C298-1)
70% Ethanol (Dnase and Rnase- free; TBS5091)
TSB Medium (TBS8065)

PCR PROTOCOL

1. Clean benchtop, pipettes, and all equipment to be used with 10% bleach before Experiments.
2. Label a new Whirl-Pak bag with the sample name and date.
3. Process Controls are made by spiking TSB with pathogens and incubating under the same conditions as samples. Non-spiked TSB as negative process control.

For Plant and Flower Sample Preparation

4. Weigh out 1g of sample and put into the labeled Whirl-pak bag. (*Note: if processing multiple samples, gloves should be changed between each to ensure there is no cross contamination of the samples during the weighting process.*).
5. Add TSB medium (TBS8065) to Whirl-Pak bag. The medium volume is calculated as below formula:
   Y=X * 14.2 (Y is the volume (mL) of TSB medium to be added; X is sample weight in grams).

   Close the whirl-Pak bag. Mix the sample and the TSB medium for at least 1minute.

For Ingredient Infused Samples /Extracts Preparation

Add 0.3g sample to 2.5 mL TSB 15mL Conical tube. Or calculate the medium volume as below formula:
Y=X * 8 (Y is the volume (mL) of TSB medium to be added; X is sample weight in grams).
Mix the sample and the TSB medium for at least 1minute.

6. Incubate the Whirl-Pak bag or conical tube at 37˚C for 16-24 hours for bacterial, or full 24 hours for aspergillus.
7. Prepare and label a 1.5mL tube with the sample name and date.
8. Take 1 mL culture liquid without plant debris and others from the bag or tube, and put into a labeled 1.5mL.
9. Centrifuge for 5 min at 10,000 rpm at RT, and carefully discard supernatant, keep the cell pellet in the tube.

DNA Extraction Procedure

10. Resuspend the cell pellet completely in 200 µL of Lysis Buffer1(Note: If the Lysis Buffer has any turbid, please warm up it at 37˚C to dissolve it). Vortex vigorously for 1 min to mix completely. Incubate at room temperature (RT) for **2 min or longer**.
11. Add 200 µL of chloroform, mix vigorously.
12. Centrifuge the lysate at 12,000 rpm at RT for 5 min.
13. Take supernatant (about 200 µl) to 96well extraction plate (Note: the 96 well plate is labeled before adding samples).
14. Add 200 µl of Binding Buffer 2 into the sample well the plate, mix for several time with Pipette (Note: The Binding Buffer 2 has to be resuspended completely before use).
15. Incubate the extraction plate at RT on the bench for 5min.
16. Put the extraction plate onto the magnetic plate for 5min, then remove as much of 400 µl of the supernatant as possible (Note: do not disturb or aspirate the beads).
17. Washing 2 times with 70% ethanol (EtOH): Add 400 µL of 70% EtOH to sample wells on the extraction plate still on the magnet plate, then incubate for 1min. Remove all EtOH. Repeat this step again, aspirate all EtOH.
18. Dry the beads in the extraction plate at RT for 15 min.
19. Add 50 uL Elute Buffer 3, and resuspend the beads with pipette. Incubate the plate for 1 min or longer on the bench. Then put the extraction plate back to the magnetic plate, and incubate for at least 1 min.
20. Transfer the eluent to a new extraction plate with sample label or keep the same extraction plate, and store at -20℃ for further applications, like PCR detections.

For research use only.

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