TOOLS Bacterial and Fungal DNA Extraction Kit

Contents

Introduction

TOOLS Bacterial and Fungal DNA Extraction Kit is a buffer-based system for bacterial and fungal DNA extraction and purification. Simple centrifugation procedures enable the complete removal of contaminants and enzyme inhibitors. It provides a fast, simple, and cost-effective method of purifying DNA that is suitable for downstream applications, including PCR, southern blot, genomic DNA libraries, and sequencing.

Kit Contents

Contents	TX-BFD01 (50 preps)
Buffer BDA	30 ml
Buffer BDB	12 ml
Buffer BDC	300 μl
Binding Gel	50 tubes

Materials not provided

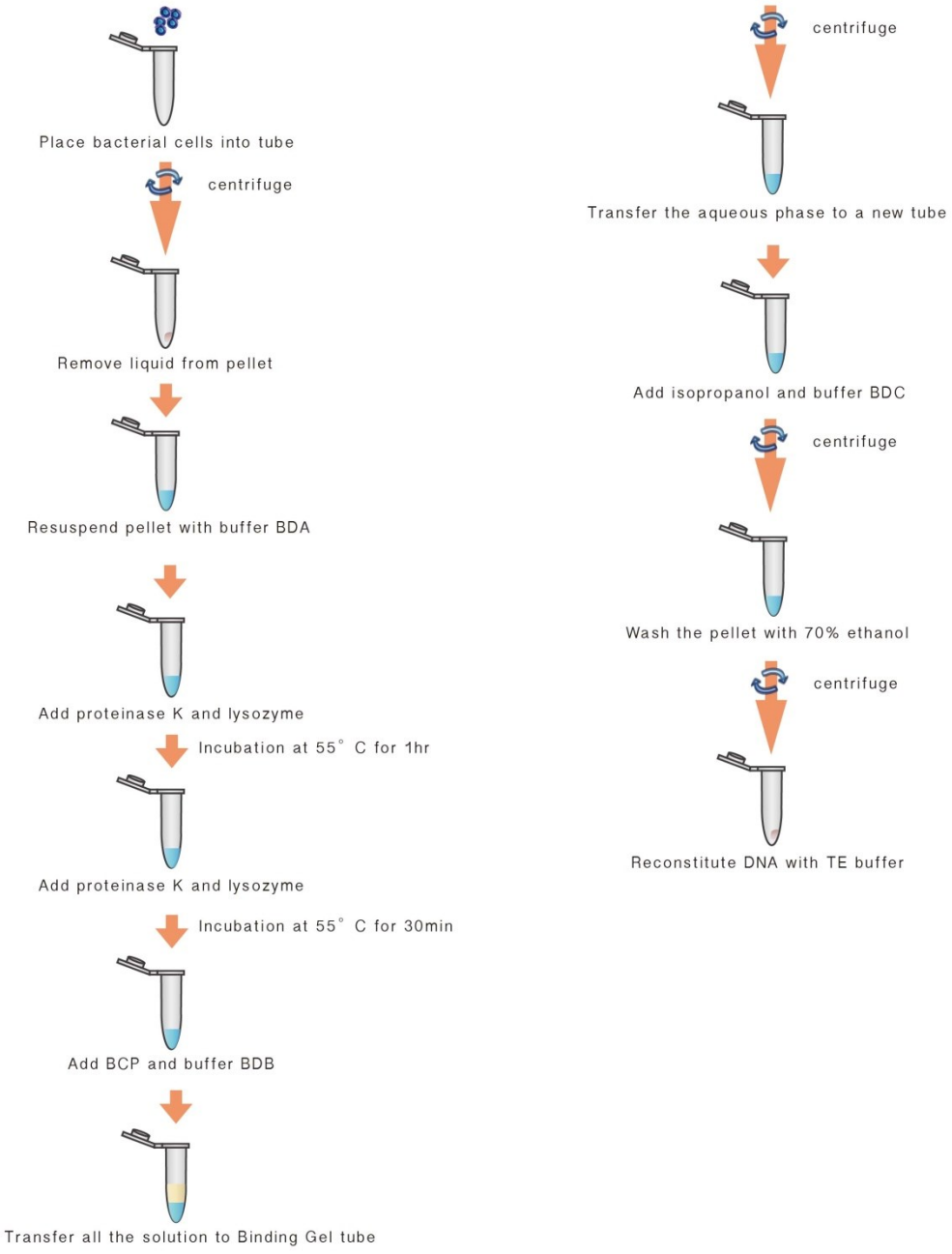
1-Bromo-3-chloropropane (BCP; CAS Number: 109-70-6).

TOOLS Proteinase K (Cat. No. RTT-BD03) or other compatible reagents and lysozyme.

Storage

TOOLS Bacterial and Fungal DNA Extraction Kit can be stored at room temperature for up to 24 months.

Workfolw


Place bacterial cells into tube
centrifuge
Remove liquid from pellet
Resuspend pellet with buffer BDA
Add proteinase K and lysozyme
Incubation at 55° C for 1hr
Add proteinase K and lysozyme
Incubation at 55° C for 30min
Add BCP and buffer BDB
Transfer all the solution to Binding Gel tube
centrifuge
Transfer the aqueous phase to a new tube
Add isopropanol and buffer BDC
centrifuge
Wash the pellet with 70% ethanol
centrifuge
Reconstitute DNA with TE buffer

Protocol

Sample preparation

1. Place 1 mL of bacterial cells into a 2-mL microcentrifuge tube.
2. Centrifuge for 5 min at 1,000 rpm to pellet the cells and remove as much supernatant as possible.
3. Add 500 µL of Buffer BDA to the tube and vortex for 60 s to resuspend the pellet thoroughly.
4. Add 5 µL of proteinase K (20 mg/mL) and 5 µL of lysozyme (100 mg/mL) to the tube, vortex for 60 s, and incubate for 1 h at 55 °C. Vortex the tube for 20 s to mix thoroughly.

DNA extraction

1. Add 5 µL of proteinase K and 5 µL of lysozyme to the tube. Vortex for 60 s and incubate at 55 °C for 30 min.
2. Add 200 µL of BCP and 200 µL of Buffer BDB to the tube and mix the sample by inverting the tube three times. Transfer the solution to the binding gel tube (centrifuge at 13,000 × *g*, 30 s before use).
3. Invert the binding gel tube three times (do not vortex) and centrifuge at 12,000–16,000 × *g* for 5 min.
4. Transfer the supernatant to a new microcentrifuge tube and add 5 µL of Buffer BDC and 550 µL of isopropanol to the tube.
5. Invert the tube three times and incubate at 37 °C for 10 min.
6. Centrifuge at 14,000 rpm for 5 min. Remove the supernatant.
7. Add 600 µL of 70% ethanol. Centrifuge at 14,000 rpm for 5 min. Remove the supernatant.
8. Air dry the pellet and rehydrate it with 20–50 µL of TE buffer or ddH_2O (adjust buffer volume according to pellet size).

This product is for research only. Not for diagnostic or clinical use.