TOOLS Fecal DNA Extraction Kit

Contents

Introduction

The TOOLS Fecal DNA Extraction Kit is a buffer-based system for cell DNA extraction and purification. The kit involves simple centrifugation procedures that facilitate the complete removal of contaminants and enzyme inhibitors. It affords rapid, simple, and cost-effective extraction and purification processes, and the purified DNA is suitable for downstream applications, such as polymerase chain reaction, Southern blotting, genomic DNA library screening, and sequencing.

Materials not provided

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

B) TOOLS Proteinase K (Cat No. RTT-BD03) or other compatible reagents or lysozymes.

Kit Contents

Contents	TX-STD01 (50 preps)
Buffer STA	30 ml
Buffer STB	12 ml
Buffer STC	300 μl
Binding Gel	50 tubes

Storage

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

Protocol

Sample preparation

1. Place 180–220 mg of stool in a 2-mL microcentrifuge tube and place the tube on ice.

Note: If the sample is in liquid form, add 200 µL of the sample into the microcentrifuge tube.

2. Add 500 µL of STA buffer to the tube and vortex for 60 s to resuspend the pellet thoroughly.
3. Add 5 µL of proteinase K (20 mg/mL) and 5 µL of lysozyme (100 mg/mL) to the tube, vortex it for 60 s, and incubate it for 1 h at 55 ℃. Vortex the tube again for 20 s to mix thoroughly.

DNA extraction

1. Add 5 µL of proteinase K and 5 µL of lysozyme to the tube again. Vortex it for 60 s, and then incubate it at 55 °C for 30 min.
2. Add 200 µL of BCP and 200 µL of STB buffer to the tube and mix the sample by inverting the tube three times. Transfer the entire solution to the Binding Gel tube (centrifuge at 13000 × g for 30 s before use).
3. Invert the Binding Gel three times (do not vortex), and then centrifuge it at 12,000–16,000 × g for 5 min.
4. Transfer the supernatant to a new microcentrifuge tube and add 5 µL of STC buffer and 550 µL of isopropanol to the tube.
5. Invert the tube three times and incubate at 37 °C for 10 min.
6. Centrifuge the tube at 14,000 rpm for 5 min. Remove the supernatant.
7. Add 600 µL of 70% ethanol. Centrifuge it at 14,000 rpm for 5 min. Remove the supernatant.
8. Air dry the pellet and rehydrate the pellet with 20–50 µL of TE buffer or ddH_2O (adjust the buffer volume according to the pellet size).

The product is for research only, not for diagnostic or clinical use.