# Data sheet

# HigherPurity™ Soil DNA Isolation Kit

**Cat. No: AN0140 (50 reactions)**
**Cat. No: AN0141 (100 reactions)**

## Description

**HigherPurity™ Soil DNA Isolation Kit** provides a simple and convenient technique to isolate high quality DNA from soil samples. Extraction is based in DNA ability to bind silica in the presence of high concentrations of chaotropic salts as guanidinium thiocyanate. Samples are rapidly and efficiently lysed by bead beating. The sample DNA is then bound to the surface of a silica membrane that is inside the spin column and washed and the bound DNA is then desorbed from the surface of the membrane. The inhibitors of the downstream PCR will be removed with the buffers system in this kit.

## Applications

All molecular biology applications, such as:

- Digestion with restriction enzymes.
- Automated sequencing.
- PCR template.
- Southern Blots.

## Quality Certifications

**Soil DNA Isolation Kit** is tested for isolation of DNA from soil sample. The quantity and quality of purified DNA attend to:

- Ratio 260/ 280.
- Agarose gel electrophoresis.
- Digestion with restriction endonucleases

## Kit Components

| | AN0140 | AN0141 |
|---|---|---|
| Minispin columns | 50 | 100 |
| Collection tubes (2 mL) | 100 | 200 |
| 2.0 ml Bead Tube (200mg glass beads / tube) | 50 | 100 |
| 1.5 mL microcentrifuge tube | 50 | 100 |
| Lysis Solution 1 (LS1) | 40 ml | 70 ml |
| Buffer A | 15 ml | 25 ml |
| Inhibitor Removal Buffer (IR-Buffer) | 15 ml | 30 ml |
| Buffer B | 25 ml | 40 ml |
| WB1 Buffer* | 20 ml | 40 ml |
| EB buffer | 35 ml | 35 ml |

*Add the volume ethanol (96%-100%) specified [Not included] to WB1 Buffer prior to initial use (see bottle label for volume). After ethanol has been added, mark the bottle to indicate that this step has been completed.

Please wear gloves when using this product. Avoid all skin contact with kit reagents. In case of contact, wash thoroughly with water.

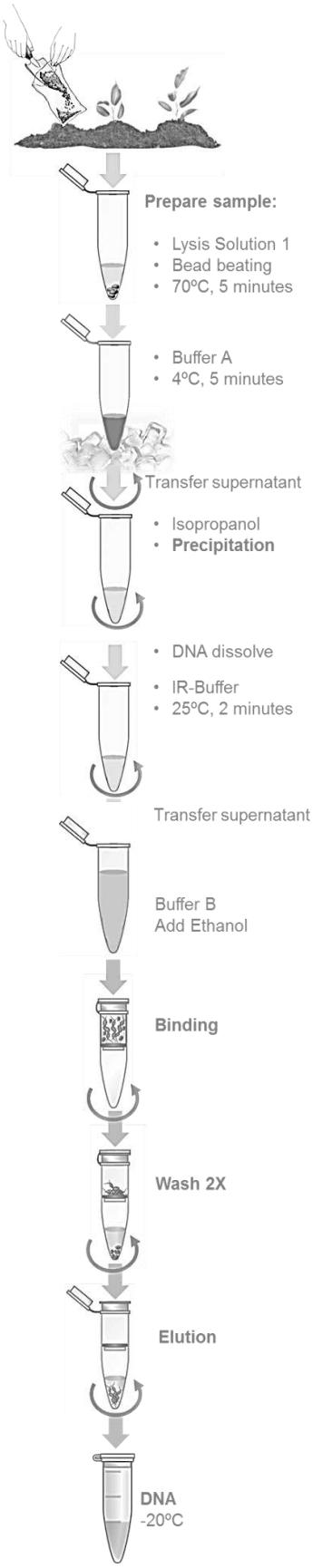
## Kit Storage:

The kit is shipped at ambient temperature. Upon arrival all components can be stored at room temperature. The kit components are stable for 1 year, if stored properly.

*(Continued on reverse side)*

# Assay procedure

1. Transfer 0.25-1g (or 200 µl for liquid sample) of soil sample into Bead Tube and place on ice.
2. Add 0.6 mL of **Lysis Solution 1** (LS1). Vortex for 5 minute at maximum speed.
   *Make sure that soil sample is homogenized completely.*
3. Incubate the sample at 70 °C for 10 minutes.
   *The temperature can be increased to 95°C for isolation of DNA from gram positive bacteria.*
4. Spin the tube to remove drops from the inside of the lid.
5. Cool down the sample on ice and add 200 µl of **Buffer A** to the sample, mix well by vortexing. Incubate the sample on ice for 5 minutes.
6. Vortex for 10 seconds and centrifuge at **full speed (14 000 rpm)** for 5 minutes. Pipet the supernatant into a new 1.5 ml microcentrifuge tube (not provided) and discard the pellet. *Measure the volume of the supernatant.*
7. Add 1 volume of isopropanol (not provided) to the sample. Mix thoroughly by vortexing and centrifuge at full speed for 10 minute to pellet DNA.
8. Carefully discard the supernatant and invert the tube on the paper towel for ~1 minute to drain any excess liquid from the pellet. *Do not disturb the pellet.*
9. Add 200 µl of pre-heated Elution Buffer (65°C) and vortex to dissolve the DNA pellet completely.
10. Add 100 µl of **IR-Buffer** to the sample, mix well by vortexing. Incubate the sample at room temperature for 2 minutes. *IR-Buffer must be suspended completely by vigorously vortexing before every using.*
11. Centrifuge at full speed for 3 minutes. Carefully pipet the supernatant into a new 1.5 ml microcentrifuge tube (not provided) and discard the pellet. *Measure the volume of the supernatant.*
12. Spin the tube to remove drops from the inside of the lid.
13. Add 1 volume of **Buffer B** and 1 volume of ethanol (96%~100%). Mix thoroughly by vortexing.
14. Assemble a spin column with one of the provided collection tubes. Apply the sample mixture onto the spin column. Close the cap and centrifuge at full speed for 1 minute. Discard the flow-through and and reuse the collection tube.
15. Carefully open the spin column and add 750 µl **Buffer WB1** (ethanol added). Close the cap and centrifuge at full speed for 1 min. Discard the flow-through and and reuse the collection tube.
16. **Repeat step 15 for one more time.**
17. Centrifuge at full speed for an additional 3 min to dry the spin column.
    *This step will avoid the residual liquid to inhibit subsequent enzymatic reactions.*
18. Place the spin column into a new 1.5 mL microcentrifuge tube. Carefully open the spin column and Add 50-200 µl of **pre-heated** Elution Buffer, TE, or **water** (60-70ºC) to the membrane centre. Close the cap and incubate for 1 min at room temperature, then centrifuge at full speed for 1 min to elute DNA.
19. The purified genomic DNA can be stored at 2-8°C for a few days. For longer term storage, -20°C is recommended.

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