



KIAGENE FANAVAR

## SODNA Soil DNA Isolation Kit

**Cat. No:**  
**FPKT005.0025**  
**FPKT005.0050**  
**FPKT005.0100**

### Contents:

| Components                  | 25 preps | 50 preps  | 100 preps |
|-----------------------------|----------|-----------|-----------|
| Soil Lysis Buffer           | 33 ml    | 33 ml * 2 | 33 ml*4   |
| SOD2 Buffer                 | 8 ml     | 15 ml     | 30 ml     |
| SOD3 Buffer                 | 5 ml     | 10 ml     | 20 ml     |
| Neutralization Buffer       | 7.5 ml   | 15 ml     | 30 ml     |
| Wash Buffer                 | 6 ml     | 12 ml     | 12 ml * 2 |
| Elution Buffer              | 2 ml     | 2 ml      | 2 ml      |
| RNase A 10mg/ml             | 50 µl    | 100 µl    | 200 µl    |
| Column and collection tubes | 25 each  | 50 each   | 100 each  |
| Glass Beads                 | 50 P     | 100 P     | 200 P     |

### Kit storage:

⚠ This kit should be stored at room temperature.

⚠ **RNase A** should be stored at -20 °C.

If properly stored, all kit components are stable until the expiration date printed on the label.

⚠ After adding **absolute ethanol** to **SOD3** and **Neutralization buffers**, Store them at +2 to +8°C.

### Additional Equipment and Reagent required

- Absolute ethanol
- Isopropanol
- Standard tabletop microcentrifuge capable of 13,000 x g centrifugal force

- Microcentrifuge tubes, 1.5 ml, sterile

### Application

This kit provides a convenient and rapid method to isolate total DNA from different soil samples. The purified DNA is of the highest quality and is fully compatible with all downstream applications such as PCR, qPCR, NGS, and microarrays since all humic acid substances and other PCR inhibitors are removed during the isolation process. The procedure is optimized to achieve reliable results within **90 min.**

### Handling Requirements and Safety Information

⚠ All solutions are clear and should not be used when precipitates have formed. Warm the solutions at +15 to +25°C or in a 37°C water bath until the precipitates have dissolved.

⚠ SOD3 and Neutralization Buffers contain guanidinium hydrochloride which is an irritant.

⚠ Do not allow SOD3 and Neutralization Buffers to touch your skin, eyes, or mucous membranes. If contact does occur, wash the affected area immediately with large amounts of water.

⚠ If you spill the reagent, dilute the spill with water before wiping it up.

⚠ Do not use any modified ethanol.

⚠ Do not pool reagents from different lot numbers.

⚠ Immediately after usage, close all bottles to avoid leakage, varying buffer concentrations, or buffer conditions.

⚠ After first opening store all bottles in an upright position.

⚠ Do not allow the SOD3 Buffer and Neutralization Buffer to mix with sodium hypochlorite found in commercial bleach solutions. This mixture can produce highly toxic gas.

⚠ Wear protective disposable gloves, laboratory coats, and eye protection, when handling samples and kit reagents.

⚠ Do not contaminate the reagents with bacteria, viruses, or nucleases. Use disposable pipets and nuclease-free pipet tips to remove aliquots from reagent bottles.

### preparation procedure:

#### Working Solution Preparation

FPKT005.0025-25 preps

⚠ **Add 5 ml of absolute ethanol** to Neutralization Buffer Bottle.

⚠ **Add 24 ml of absolute ethanol** to the Wash Buffer Bottle.

FPKT005.0050-50 preps

⚠ **Add 10 ml of absolute ethanol** to Neutralization Buffer Bottle.

⚠ **Add 48 ml of absolute ethanol** to the Wash Buffer Bottle.

FPKT005.0100-100 preps

⚠ **Add 20 ml of absolute ethanol** to Neutralization Buffer Bottle.

⚠ **Add 48 ml of absolute ethanol** to each Wash Buffer Bottle.

**Contact and Support:** If you have questions or experience problems with Kiagene Fanavar products, please contact our Technical Support staff. Our scientists are committed to providing rapid and effective help. Website: [www.kiagene.ir](http://www.kiagene.ir) Email: [Techsupport@kiagene.ir](mailto:Techsupport@kiagene.ir) Tel: 02191010809

Please note that the Ethanol concentration of the Neutralization Buffer and Wash Buffer may decrease during long-term storage resulting in a drop-down of the final DNA yield.

⚠ before starting Incubate the **Elution buffer at 70 ° C** until the end of the protocol to obtain the maximum yields.

## Protocol

### 1. Sample preparation

Add 250 mg of Soil sample to a 2ml microtube and then Add 2 beads into the 2ml microtube. If the sample is liquid, add 200 µl to 2ml microtube.

**2. Add 1ml Soil Lysis Buffer** to the 2ml microtube. Vortex at maximum speed **for 2 minutes** (Make sure Soil sample is homogenized completely). Incubate **at 70 °C for 15 min**, with gentle shaking by hand every 5 min.

**3. Centrifuge at 4°C for 5min at 16,000×g.** Transfer the supernatant to a new 2-ml microtube.

**4. Add 300 µl Soil Lysis Buffer** to the microtube and Vortex at maximum speed **for 2 minutes**. Incubate **at 70 °C for 15 min**.

**5. Centrifuge at 4°C for 5min at 16,000×g.** Transfer the supernatant to a new 2-ml microtube.

**6. Add 300 µl of SOD2 Buffer** to the sample. mix well, and incubate on ice for 5 min. Centrifuge at full speed (~16,000 x g) for 10 minutes.

**7. Transfer 400 µl of the supernatant** into a new 2ml microtube.

**8. Add 2 µl of RNase A** to the sample. mix well, and incubate **at 37 °C for 15 min**.

**9. Add 200 µl SOD3 Buffer** and **200 µl Isopropanol** to the sample. mix well.

**10. Transfer 800 µl of supernatant** into a DNA spin column assembled in a clean collection tube (provided). Centrifuge at **10000×g for 1 min** at room temperature. Discard flow through.

**11. Add 500 µl Neutralization** to the spin column and centrifuge **at 10000×g for 1 min**. Discard flow through.

**12. Add 700 µl wash buffer** to the spin column and **centrifuge (10000×g, 1 min)**. Discard flow through.

**13. Centrifuge the DNA spin column at 10000×g for 3 min** to remove residual ethanol.

**14. Place the DNA spin column** into the clean new microtube. Add 30 µl of pre-warmed Elution Buffer or sterile DDW directly onto the column membrane and stand for 1 min. Centrifuge at **10000×g for 1 min**.

**15. Add another 30 µl pre-warmed Elution Buffer** or sterile DDW directly onto the column membrane and stand for 1min. Centrifuge at **10000×g for 1 min**.

**16. Check 7 µl of extracted DNA** by 0.5 % agarose gel electrophoresis. **Store DNA at -20°C**.