

Soil DNA Isolation Kit (Magnetic Bead System)



Rapid preparation of genomic DNA from Soil Samples



- ✓ Fast and easy processing using a magnetic bead system
- ✓ Robust lysis system (chemical lysis combined with a mechanical homogenization)
- ✓ Isolate high quality genomic DNA
- ✓ High yields - Consistent, high yields of inhibitor-free DNA up to 50 kb plus
- ✓ Isolate sequencing quality total DNA from a variety of microorganisms including bacteria, fungi and algae
- ✓ Also available in a 96-well format that can be integrated with a robotic automation system

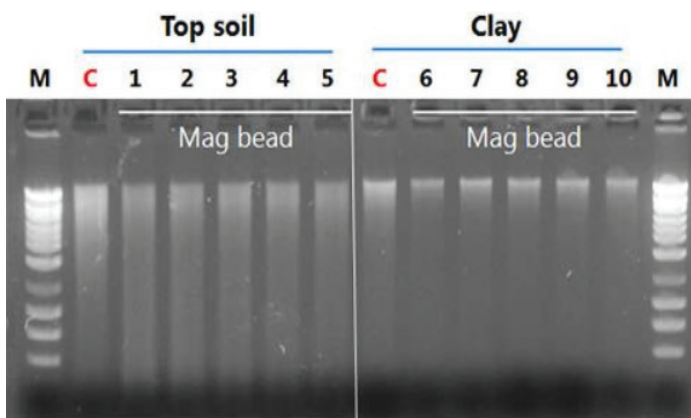


Figure 1. Resolution of DNA isolated from two different types of soil samples
DNA was isolated from high humic acid soil (top soil) and regular soil (clay) using Norgens column-based Soil DNA Isolation Kit (Red C) and Norgen's Soil DNA Isolation Kit (Magnetic Bead System) (Mag Bead). For evaluation, 10 μ L from the 75 μ L elution was run on 1X TAE 1.2% agarose gel. Excellent DNA integrity and yield were observed from the Soil DNA Isolation Kit (Magnetic Bead System), indicating the robust performance comparable to the column based method. Marker = Norgens HighRanger DNA Ladder.

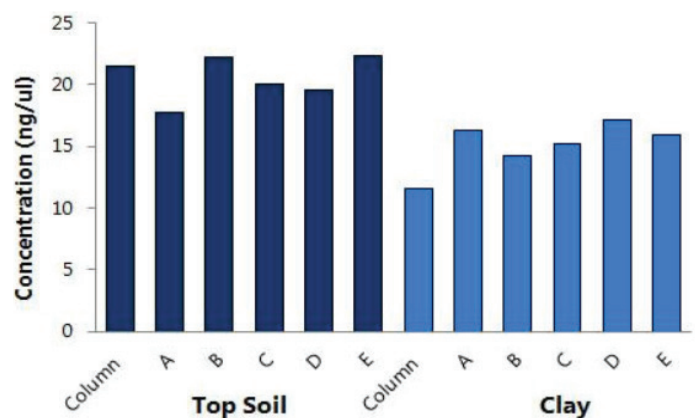


Figure 2. Two of Norgens soil DNA isolation methods (Column vs Magnetic Bead System) were compared for DNA concentration. All DNA elutions isolated using Norgens Soil DNA Isolation Kit (Magnetic Bead System) [A to E] showed a comparable DNA concentration to Norgens Soil DNA Isolation Kit (Column Method; Cat. 26500), indicating the consistent and robust performance of the Soil DNA Isolation Kit (Magnetic Bead System).

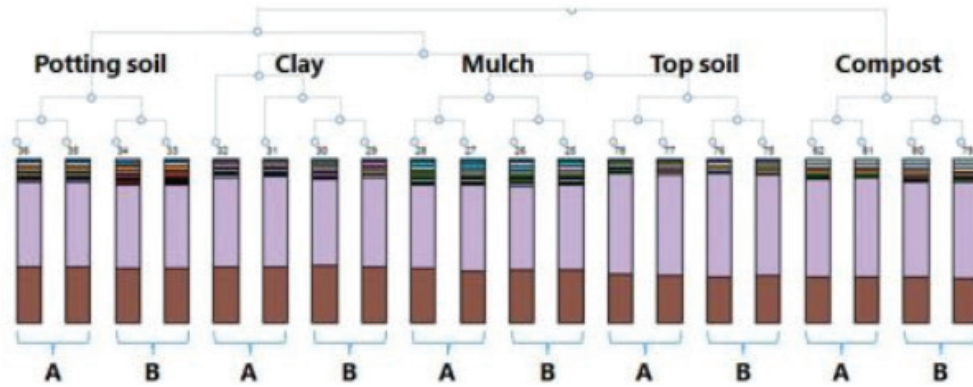


Figure 3 Hierarchical Clustering Dendrogram. High quality of soil DNA was successfully isolated from the 5 challenging soil types using Norgen's Soil DNA Isolation Kits (A: Soil DNA Isolation Kit (Magnetic Bead System) and B: Soil DNA Isolation Kit Spin Column) respectively. The Hierarchical Clustering Dendrogram is based on genus-level classifications and shows the relative abundance of its genus-level classifications among soil types.

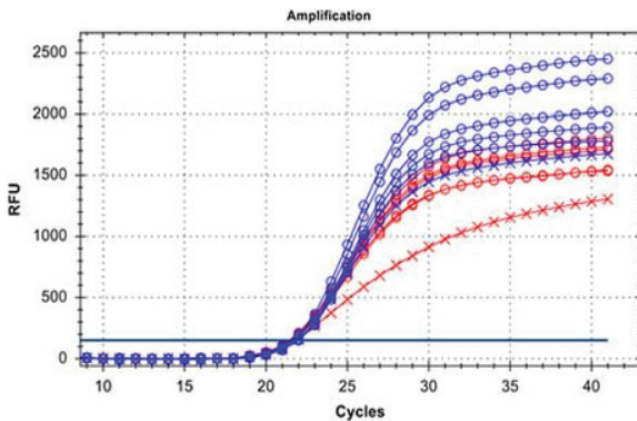


Figure 4. High soil DNA quality was confirmed by real-time PCR using 8 μ L of soil DNA (total PCR reaction volume was 20 μ L) isolated using Norgens Soil DNA Isolation Kit (Magnetic Bead System) to detect 16s rDNA. PCR results from Norgen's Soil DNA Isolation Kit (Magnetic Bead System) (circle) were comparable to Norgens column based Soil DNA Isolation Kit (cross) and showed the successful 16s rDNA detection without PCR inhibition, indicating the excellent soil DNA quality using Norgens Soil DNA Isolation Kit (Magnetic Bead System).

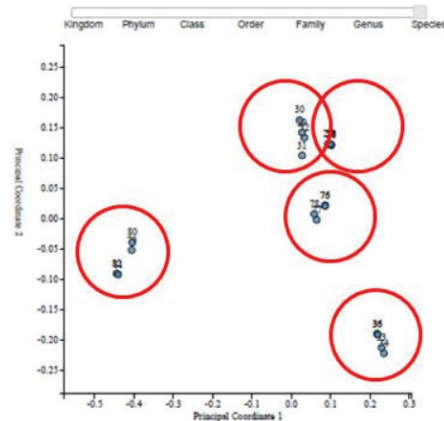


Figure 5. Principal Coordinate Analysis (PCoA) generated by Illumina MiSeq. Principal Coordinate Analysis of 20 samples (25-28: Mulch, 29-32: Clay, 33-36: Potting soil, 76-78: Top soil, 79-82: Compost) showing differences in the distribution of taxonomic classifications between samples up to species level. Each soil type is clearly clustered together and away from other types.



About this kit

Norgen's Soil DNA Isolation Kit (Magnetic Bead System) provides a fast and reproducible method for isolating genomic DNA from soil samples. All types of soil samples can be processed with this kit, including common soil samples and difficult soil samples with high humic acid content such as compost and manure. The kit removes all traces of humic acid using the provided the OSR (Organic Substance Removal) Solution. Total genomic DNA can be isolated and purified from all the various microorganisms found in soil, such as bacteria, fungi and algae. The purified DNA is of the highest quality and is fully compatible with downstream PCR applications, as all humic acid substances and PCR inhibitors are removed during the isolation.

v2.0

Ordering information

| Description | Size | Cat. Number |
|---|--------------------|-------------|
| Soil DNA Isolation Kit (Magnetic Bead System) | 50 preps | 58100 |
| Soil DNA Isolation 96-Well Kit (Magnetic Bead System) | 2 x 96-well plates | 62800 |

