Product Profile

DNeasy® PowerSoil® Pro Kits

The next generation kits for the isolation of microbial DNA from all soil types

Extracting microbial DNA from soil samples can be challenging. QIAGEN's new DNeasy PowerSoil Pro Kits are even more effective than our original PowerSoil technology at isolating high yields of pure microbial DNA from all soil types. The kits feature a novel bead tube and optimized chemistry for more efficient lysis of soil bacteria and fungus. They also include streamlined Inhibitor Removal Technology® (IRT) to eliminate the challenging inhibitors commonly found in soil and environmental samples, in even less time. In addition, sequencing results reveal higher alpha diversity as measured by observed operational taxonomic units (OTUs) compared to other tested methods.

The DNeasy PowerSoil Pro Kits enable:

- Efficient lysis of bacteria and fungi in all soil types, including compost, clay and top soil
- Isolation of up to 8-fold higher yields of DNA compared to alternative methods
- Recovery of inhibitor-free DNA, ready to use directly in downstream NGS applications
- Unbiased results, with higher alpha diversity in sequencing as compared to other methods
- Automation on the QIAcube

DNeasy PowerSoil Pro Kits enable isolation of higher yields of DNA compared to the first generation DNeasy PowerSoil Kits and alternative methods (Figure 1). The new kits isolate high-quality DNA from fungi and soil samples with improved yields over the original DNeasy PowerSoil Kits (Figure 2).

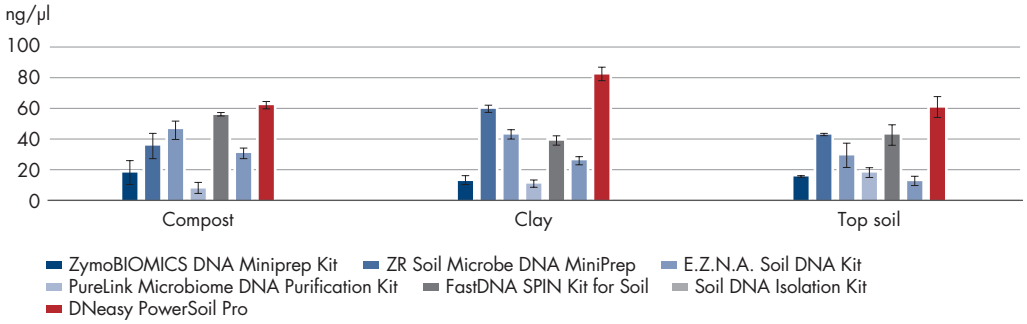

Figure 1. Higher yields of DNA with the new DNeasy PowerSoil Pro Kit. Various soil sample types (250 mg) were prepared using commercially available sample preparation solutions and compared to the new DNeasy PowerSoil Pro Kit. Yields were measured by fluorometric quantification (Qubit®).

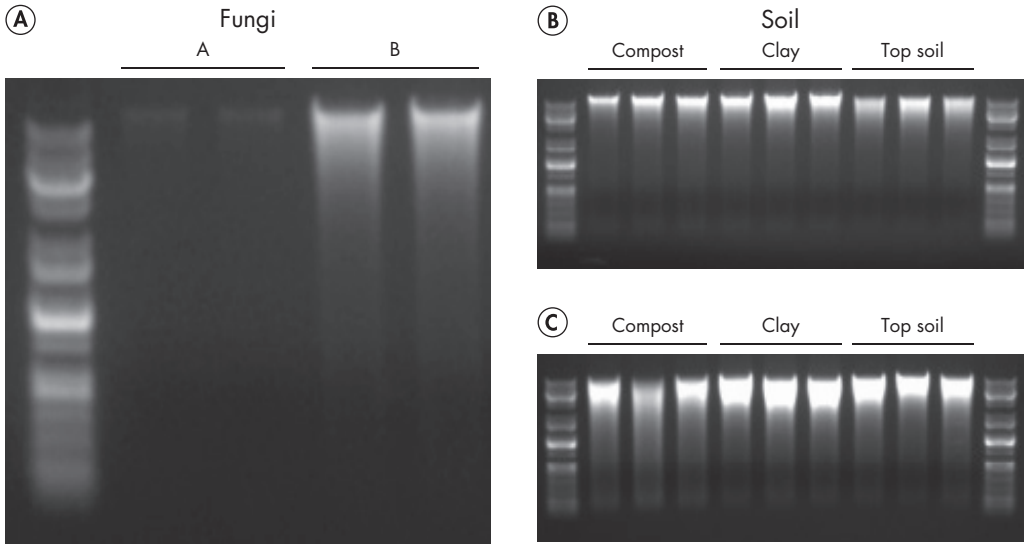

Figure 2. Improved, high-quality DNA yields with the new DNeasy PowerSoil Pro Kit. Various soil sample types (250 mg) or 1.8 ml of *C.albicans* culture were prepared with the DNeasy PowerSoil Kit **A** or the DNeasy PowerSoil Pro Kit **B** and analyzed via gel electrophoresis.

The new DNeasy PowerSoil Pro Kits feature a streamlined IRT to decrease sample processing time. DNeasy PowerSoil Pro Kits are the only kits that showed 260/280 ratios near 1.8 for all soil types, while also showing the highest 260/230 ratios, indicating the absence of inhibitors. Less variability was also observed between the samples processed with DNeasy PowerSoil Pro Kits (Figure 3).

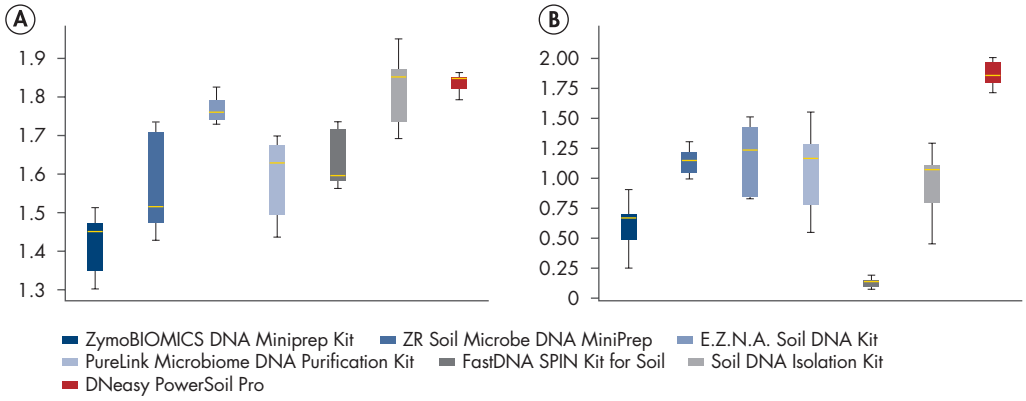

Figure 3. Highly pure DNA with the new DNA PowerSoil Pro Kit. Various soil samples (250 mg) were prepared using commercially available sample preparation solutions and compared to the new DNeasy PowerSoil Pro Kit. DNA purity was depicted via UV measurements and the analysis of ratios 260/280 **A** and 260/230 **B**.

DNA isolated using the new DNeasy PowerSoil Pro Kits identified more bacteria (OTUs) in soil samples when compared with the DNeasy PowerSoil Kit and two other competitors (Figure 4).

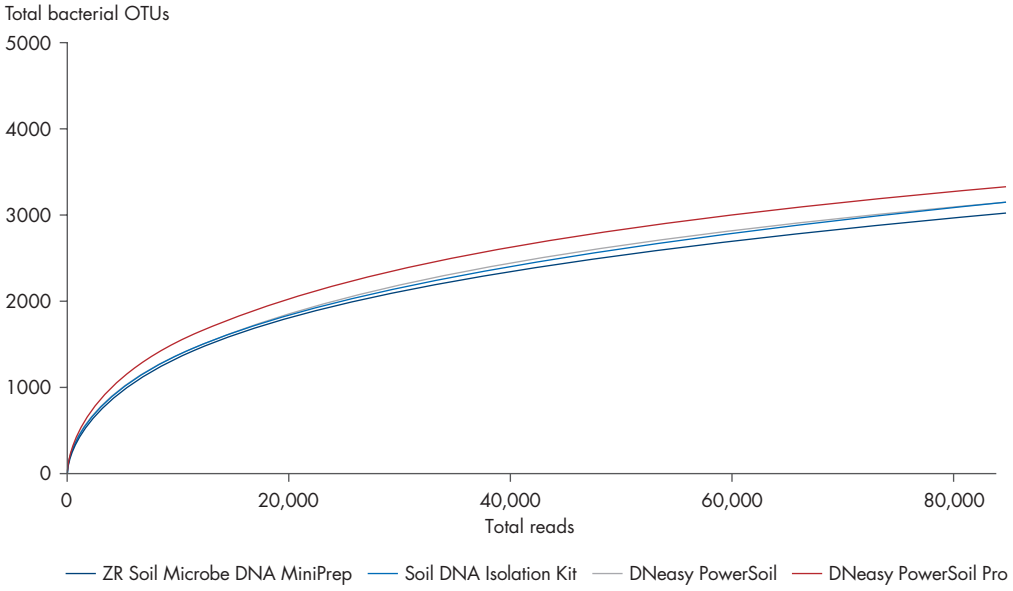

Figure 4. Increased bacterial OTUs with the new DNeasy PowerSoil Pro Kit. DNA prepared from soil samples was isolated with different methods and enriched. Analysis of the 16S rRNA-genes was done using the QIAseq® 1-Step Amplicon Kit and data analysis was done using the Microbial Genomics Pro suite (CLC workbench). Alpha diversity was determined by total number of bacterial OTUs.

Ordering Information

Product	Contents	Cat. no.
DNeasy PowerSoil Pro Kit (50)	For 50 DNA minipreps: Buffers, PowerBead Tubes, Spin Filters, 2 ml Collection Tubes	47014
DNeasy PowerSoil Pro Kit (250)	For 250 DNA minipreps: Buffers, PowerBead Tubes, Spin Filters, 2 ml Collection Tubes	47016

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Visit **www.qiagen.com** or contact QIAGEN today to discover how DNeasy PowerSoil Pro Kits can enhance your soil DNA extraction!

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