

Product Profile

DNeasy[®] 96 PowerSoil[®] Pro QIAcube[®] HT Kit

Automated isolation of microbial DNA from soil and stool using the QIAcube HT

Extracting microbial DNA from large numbers of soil and stool samples simultaneously can be challenging. Our new DNeasy 96 PowerSoil Pro QIAcube HT Kit uses our next-generation Pro technology to enable isolation of high yields of pure microbial DNA from all soil types, including compost, clay and top soil, as well as stool and gut samples. The kit is automated on the QIAcube HT for reproducible purification of up to 96 samples at one time.

To homogenize samples using your preferred format, you can purchase our new PowerBead Pro Tubes or PowerBead Pro Plates separately. The improved beads and optimized chemistry enable more efficient lysis of bacteria and fungi. The DNeasy 96 PowerSoil Pro QIAcube HT Kit also contains streamlined Inhibitor Removal Technology[®] (IRT) to eliminate the challenging inhibitors commonly found in stool, soil and environmental samples in less time compared to older kits. Sequencing results reveal higher alpha diversity as measured by observed operational taxonomic units (OTUs) compared to other tested methods.



Using the DNeasy 96 PowerSoil Pro QIAcube HT Kit, researchers can:

- Efficiently lyse bacteria and fungi in soil, stool and gut samples
- Automate the procedure on the QIAcube HT for reproducible high-throughput purification of DNA
- Recover inhibitor-free DNA, ready to use directly in downstream next-generation sequencing (NGS) applications
- Achieve unbiased results that accurately represent sample alpha and beta diversity
- Gain the flexibility to homogenize samples in a bead tube or plate format
- Obtain results equivalent to using the DNeasy PowerSoil Pro Kit

Take advantage of a convenient, automated high-throughput workflow

The new DNeasy 96 PowerSoil Pro QIAcube HT Kit provides a convenient, semi-automated workflow for simultaneous high-throughput extraction of microbial DNA from up to 96 soil or stool samples in less than 3 hours (Figure 1).

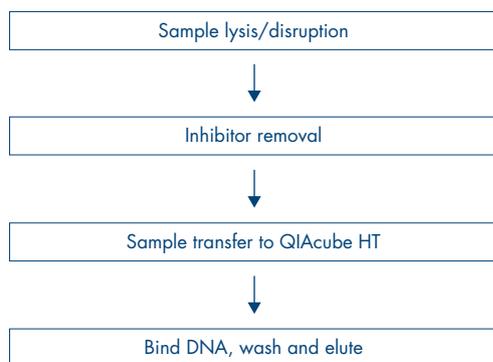


Figure 1. Workflow of the DNeasy 96 PowerSoil Pro QIAcube HT Kit.

Achieve reproducible DNA yields from soil and stool samples

The DNeasy 96 PowerSoil Pro QIAcube HT Kit enables researchers to isolate high-quality DNA from up to 96 soil or stool samples at one time in a highly reproducible manner (Figure 2).

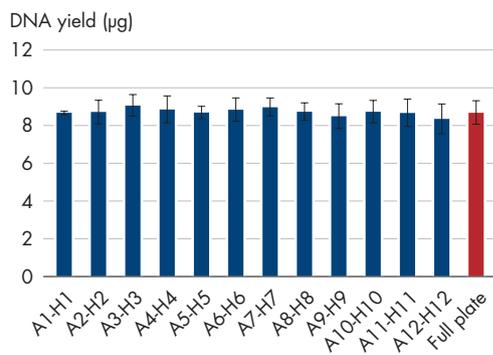


Figure 2. The DNeasy 96 PowerSoil Pro QIAcube HT Kit provides highly reproducible DNA yields. Soil and human stool samples were processed using the DNeasy 96 PowerSoil Pro QIAcube HT Kit. Microbial genomic DNA was extracted from aliquots of a lysate pool. Examining pooled lysates revealed high consistency between different sets of wells of the 96-well plate, with no statistical differences in yields observed between different wells.

Inhibitor Removal Technology increases purity of isolated DNA

The DNeasy 96 PowerSoil Pro QIAcube HT Kit features a streamlined IRT that removes inhibitors with high efficiency and yields highly pure samples. DNA extracted from soil samples had excellent A_{260}/A_{280} ratios (around 1.9) and high A_{260}/A_{230} ratios (over 2.0). No inhibition of PCR was detected when using DNA extracted with the DNeasy 96 PowerSoil Pro QIAcube HT Kit (Figure 3).

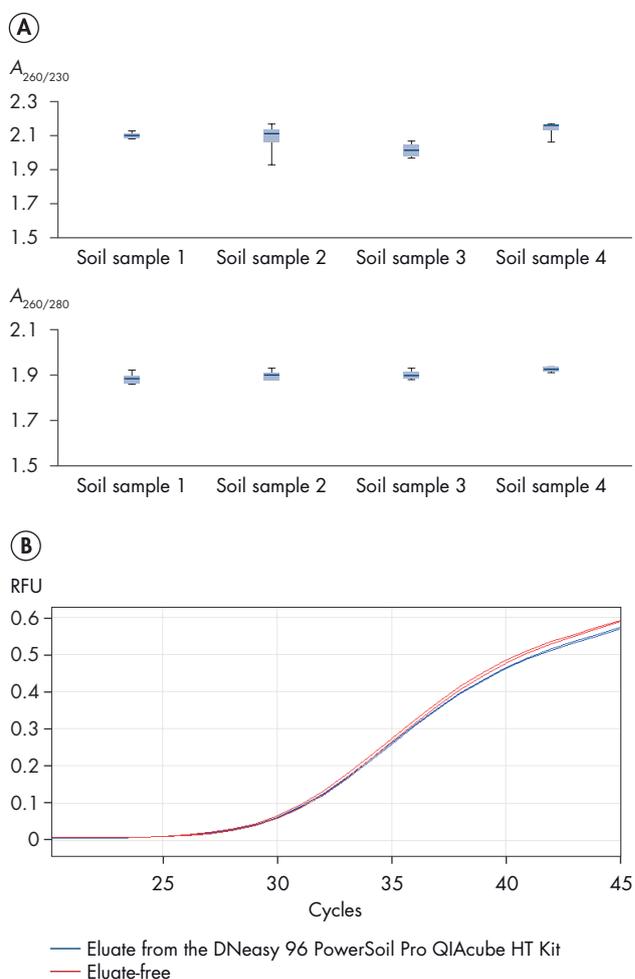


Figure 3. Highly pure DNA isolated using the new DNeasy 96 PowerSoil Pro QIAcube HT Kit. Soil samples were processed with the DNeasy 96 PowerSoil Pro QIAcube HT Kit. **A** DNA purity was measured via UV spectrophotometry and A_{260}/A_{230} (top) and A_{260}/A_{280} (bottom) ratios are shown. **B** Inhibitor removal was measured with an inhibitor-sensitive PCR that included an internal control spiked with eluates from the new DNeasy96 PowerSoil Pro QIAcube HT kit (blue lines); eluate-free PCR reactions served as controls (red lines).

Identify total diversity and community representation in soil and stool samples

DNA isolated using the new DNeasy 96 PowerSoil Pro QIAcube HT Kit helped researchers identify comparable

bacterial diversity (OTUs) in soil and stool samples when compared with the DNeasy PowerSoil Pro Kit (Figure 4).

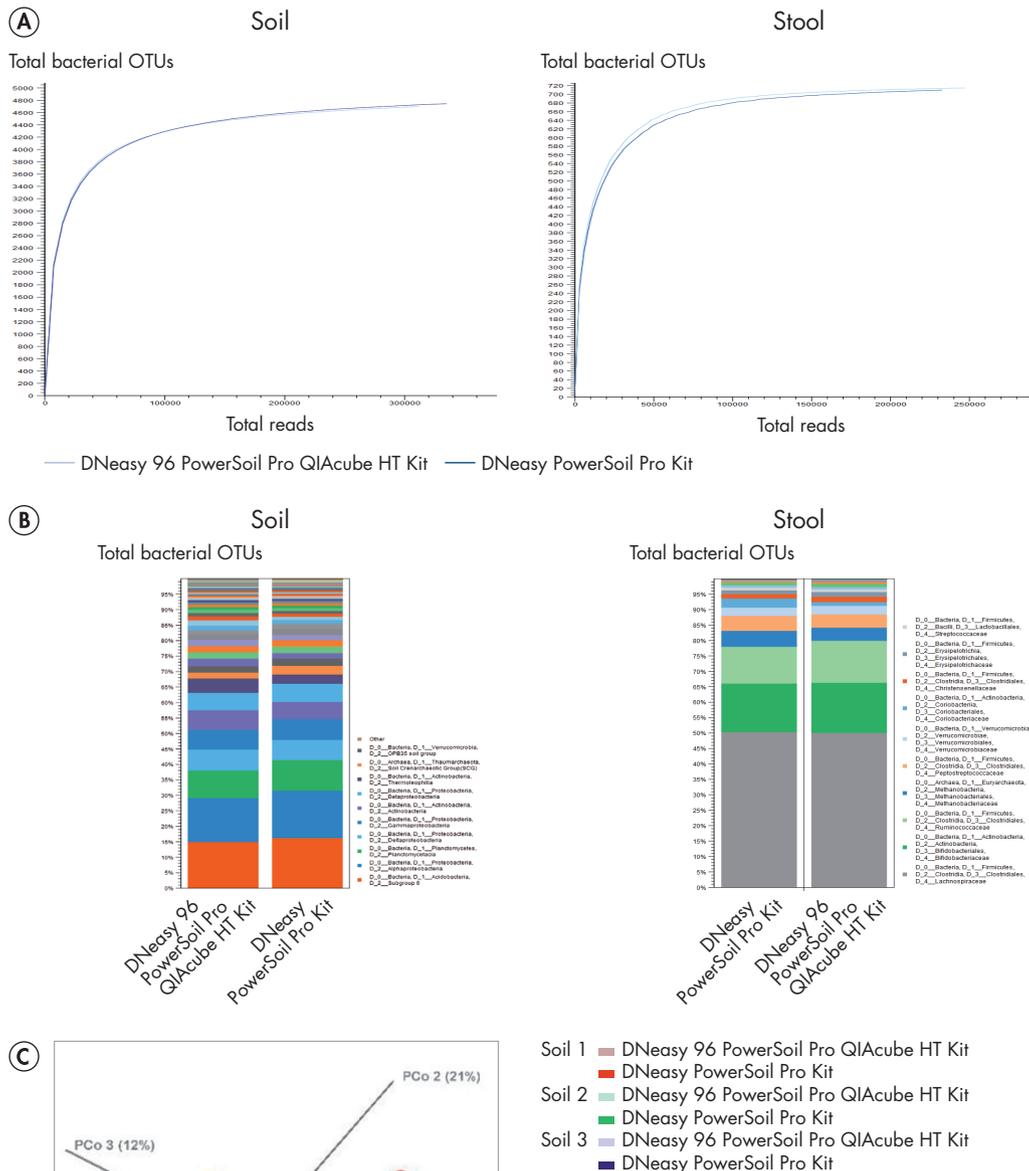


Figure 4. Comparable total number of bacterial OTUs are isolated with the DNeasy 96 PowerSoil Pro QIAcube HT Kit or the DNeasy PowerSoil Pro Kit. DNA from soil and stool samples was isolated using either the DNeasy PowerSoil Pro Kit or the DNeasy 96 PowerSoil Pro QIAcube HT Kit. DNA was then used for library construction using an adapter-modified 515F-806R 16S primer, sequenced on a MiSeq™ system and analyzed using the Microbial Genomics Pro Suite (CLC workbench). Alpha diversity **A**, **B** and beta diversity **C** were determined by total number of bacterial OTUs.

Ordering Information

Product	Contents	Cat. no.
DNeasy 96 PowerSoil Pro QIAcube HT Kit (480)	For 480 samples: Contains Buffers, MB Spin Columns, 2 ml Collection Tubes for the isolation of microbial DNA from soil and stool samples	47021
PowerBead Pro Tubes (2 ml) (50)	Bead tubes ready for rapid and reliable biological sample lysis from a wide variety of starting materials	19301
PowerBead Pro Plates (4)	Bead plates ready for rapid and reliable biological sample lysis from a wide variety of starting materials	19311

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Visit www.qiagen.com to learn more about how the next-generation DNeasy 96 PowerSoil Pro QIAcube HT Kit can help you reproducibly isolate high-quality DNA from soil and stool samples.

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