Product Profile

QIAamp® PowerFecal® Pro DNA Kit

The next-generation kit for the isolation of microbial DNA from stool and gut samples

Extracting microbial DNA from stool and gut samples can be challenging. Our new QIAamp PowerFecal Pro DNA Kit is even more effective than our original PowerFecal technology and is designed to help researchers isolate high yields of pure microbial DNA from stool and gut samples.

This kit features a novel bead tube and optimized chemistry for more efficient lysis of bacteria and fungi. It also includes streamlined Inhibitor Removal Technology® (IRT) to eliminate the challenging inhibitors commonly found in stool and gut 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.

Using the QIAamp PowerFecal Pro DNA Kit, researchers can:

- Efficiently lyse bacteria and fungi in stool and gut samples
- Isolate up to 20-fold higher amounts of DNA compared to alternative methods
- Recover inhibitor-free DNA, ready to use directly in downstream next-generation sequencing (NGS) applications
- Achieve unbiased results, with higher alpha diversity in sequencing as compared to other methods
- Automate workflows on the QIAcube

The new QIAamp PowerFecal Pro DNA Kit enables the isolation of higher amounts of DNA from stool samples compared to alternative methods (Figure 1).

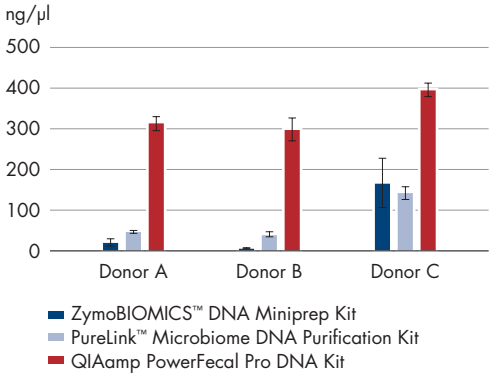

Figure 1. Higher yields of DNA with the QIAamp PowerFecal Pro DNA Kit. DNA was isolated from stool samples (200 mg) from three donors using commercially available sample preparation solutions and the new QIAamp PowerFecal Pro DNA Kit and compared. Yields were measured by fluorometric quantification (Qubit™).

Compared to the first-generation QIAamp PowerFecal DNA Kit, the new QIAamp PowerFecal Pro DNA Kit enables researchers to isolate higher-quality DNA with improved yields from stool samples and fungi (Figure 2).

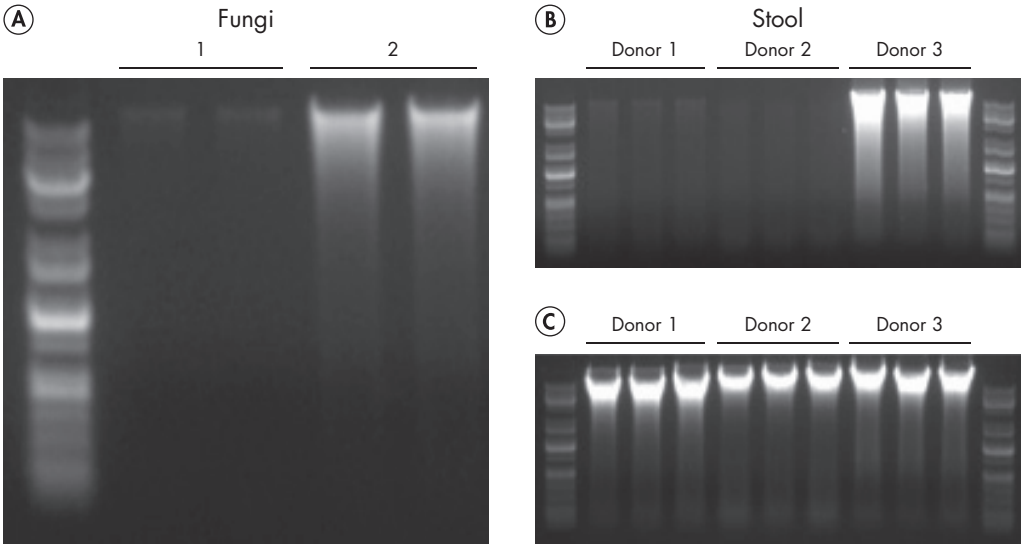

Figure 2. The new QIAamp PowerFecal Pro DNA Kit enables the isolation of larger amounts of high-quality DNA. A DNA from duplicate 1.8 ml *C. albicans* cultures was isolated with the QIAamp PowerFecal DNA (1) or the QIAamp PowerFecal Pro DNA (2) Kits. **B, C** DNA from stool samples (200 mg) from three donors was prepared with the first-generation QIAamp PowerFecal DNA Kit **B** or the new QIAamp PowerFecal Pro DNA Kit **C**. DNA was analyzed via gel electrophoresis.

The new QIAamp PowerFecal Pro DNA Kit features a streamlined IRT that removes inhibitors with high efficiency and decreases sample processing time. In a comparison with other commercially available sample preparation methods, QIAamp PowerFecal Pro DNA Kits were the only kits that showed A_{260}/A_{280} ratios near 1.8 for all samples, while also showing the highest A_{260}/A_{230} ratios, which indicates the absence of inhibitors. Less variability was also observed between the samples processed with QIAamp PowerFecal Pro DNA Kits (Figure 3).

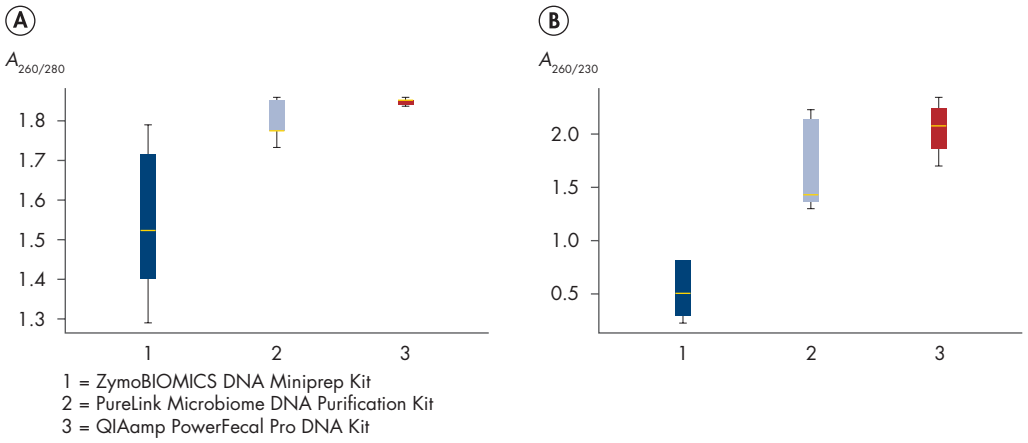

Figure 3. Highly pure DNA isolated using the new QIAamp PowerFecal Pro DNA Kit. Stool samples (200 mg) were prepared using commercially available sample preparation solutions or the new QIAamp PowerFecal Pro DNA Kit and compared. DNA purity was measured via UV spectrophotometry and the comparisons of A_{260}/A_{280} (**A**) and A_{260}/A_{230} (**B**) ratios are shown.

DNA isolated using the new QIAamp PowerFecal Pro DNA Kits helped researchers identify greater bacterial diversity (more OTUs) in stool samples when compared with the QIAamp PowerFecal Kit and two other competitors (Figure 4).

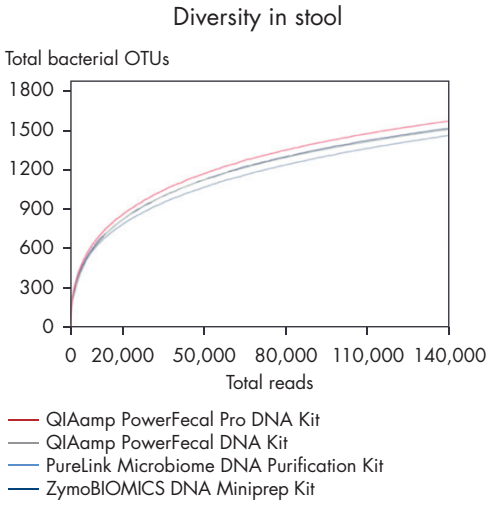

Figure 4. Greater total number of bacterial OTUs isolated with the new QIAamp PowerFecal Pro DNA Kit. DNA prepared from stool samples was isolated with different methods and enriched. Analysis of the 16S rRNA genes was done using the QIAseq® 1-Step Amplicon Kit and data analysis was done using the Microbial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

Ordering Information

Product	Contents	Cat. no.
QIAamp PowerFecal Pro DNA Kit (50)	For 50 samples: contains Buffers, PowerBead Tubes, MB Spin Columns, 2 ml Collection Tubes for the isolation of microbial DNA from stool and gut samples	51804

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 QIAamp PowerFecal Pro DNA Kits can help you isolate high-quality DNA from stool and gut samples.

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