Product Profile

QIAamp® Fast DNA Stool Mini Kit

For isolation of gDNA from stool samples

The QIAamp Fast DNA Stool Mini Kit enables rapid purification of high-quality genomic DNA (human and bacterial) from fresh or frozen stool samples. The novel, liquid InhibitEX® Buffer included in the kit replaces cumbersome inhibitor removal tablets to efficiently deplete PCR inhibitors commonly present in stool samples and significantly reduce handling time.

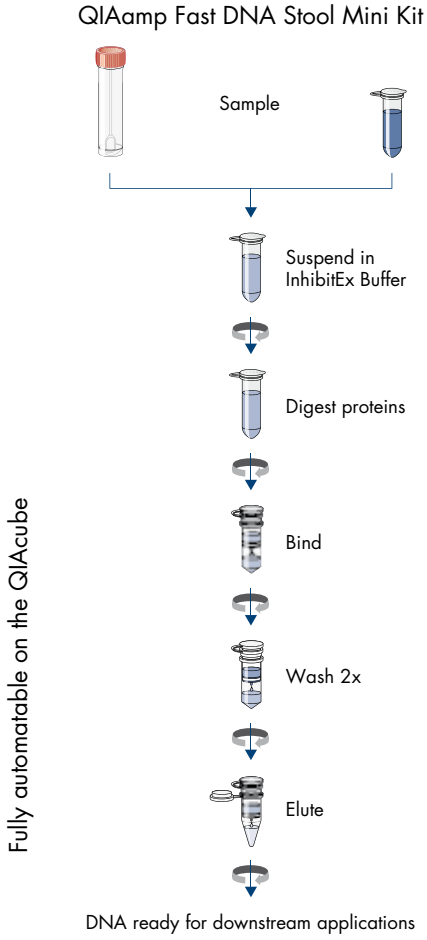
The QIAamp Fast DNA Stool Mini Kit affords:

- A streamlined, faster purification protocol
- Efficient depletion of PCR inhibitors
- High sensitivity in downstream assays
- An automated workflow on the QIAcube®

Fast and convenient handling

The QIAamp Fast DNA Stool Mini Kit streamlines gDNA purification from stool samples, reducing the total time needed from sample to isolated DNA to as little as 25 minutes. The unique formulation of the new InhibitEX Buffer efficiently separates PCR inhibitors from DNA and its liquid format is more convenient than tablets or powder. Manual sample handling is streamlined because extra addition of inhibitor removal reagents is no longer required and experiments can be scaled more easily. The QIAamp Fast DNA Stool Mini Kit can be automated on instruments like the QIAcube.

Rapid protocols are provided to efficiently isolate human DNA or microbial DNA for pathogen detection. Shortly, stool is suspended in InhibitEX Buffer to separate inhibitors from DNA. Following a quick lysis, DNA binds to the QIAamp silica membrane. Any remaining inhibitors and contaminants are removed by washing steps and pure, intact DNA is then eluted from the column.



Superior yields for best downstream sensitivity

DNA yields from sample preparation directly affect sensitivity of PCR applications. The improved protocol of the QIAamp Fast DNA Stool Mini Kit ensures highest yields from stool samples in less time than other commonly used methods. Furthermore, hazardous organic chemicals are not used, improving laboratory and personal safety. Typical yields of DNA obtained with the QIAamp Fast DNA Stool Mini Kit are 5–50 µg, which is consistently higher than comparable purification kits from alternative suppliers (Figure 1).

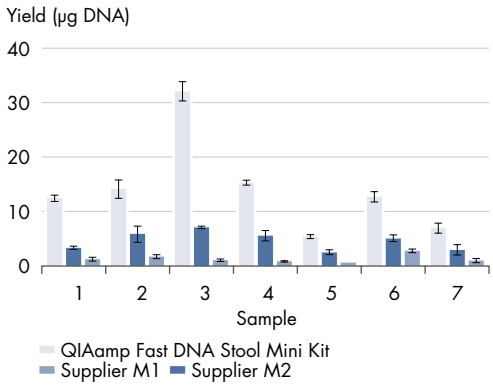


Figure 1. Superior DNA yields compared to similar kits. DNA was purified from 7 stool samples using the QIAamp Fast DNA Stool Mini Kit and solutions from 2 alternative suppliers. Yields were measured by UV spectrophotometry. Yields were invariably highest with the QIAamp Fast DNA Stool Mini Kit.

DNA purified with the QIAamp Fast DNA Stool Mini Kit gives highly sensitive results in downstream quantitative real-time PCR, with consistently lower C_T values than obtained with solutions from other suppliers (Figure 2).

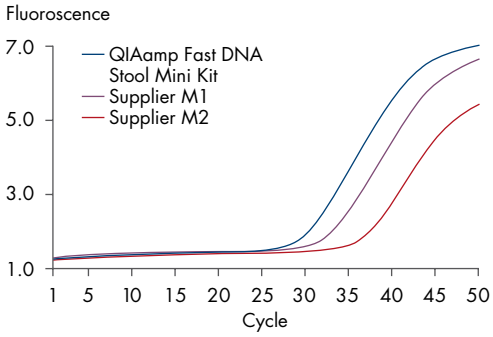


Figure 2. High sensitivity in qPCR. A stool sample was purified using the QIAamp Fast DNA Stool Mini Kit and solutions from 2 alternative suppliers. Equal volumes of resulting eluates with isolated DNA were used to amplify the human Alu element. Represented in the amplification plot are the means of 2 replicates. The QIAamp Fast DNA Stool Mini Kit produced the lowest C_T values.

Effective depletion of inhibitors

Stool samples are rich in PCR inhibitors like complex polysaccharides, bile salts, lipids and urate. In best cases, these inhibitors make targets difficult to amplify. In worst cases, their presence can entirely suppress PCR signals. Therefore, a method to completely remove such inhibitors is critical for any stool sample analysis. The novel InhibitEX Buffer of the QIAamp Fast DNA Stool Mini Kit efficiently depletes PCR inhibitors from samples, enabling reliable detection of DNA (Figure 3).

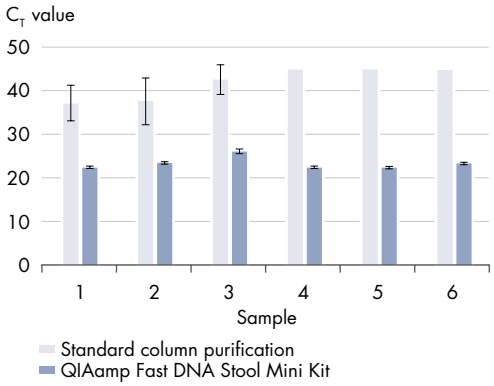


Figure 3. Efficient depletion of PCR inhibitors. DNA was isolated from 6 stool samples using either the QIAamp Fast DNA Stool Mini Kit or another standard column method. C_T values were measured with an inhibitor-sensitive PCR system. In most samples using the standard purification method the target could not be amplified due to PCR inhibition. The QIAamp Fast DNA Stool Mini Kit efficiently separated inhibitors from DNA to enable amplification with high sensitivity.

A streamlined workflow for greater lab efficiency

Stool samples can be difficult to prepare for molecular applications but the right chemistry can improve DNA purification efficiency. By combining the right chemistry with a streamlined protocol, the QIAamp Fast DNA Stool Mini Kit generates high-quality DNA eluates and saves not only time, but also the frustration of repeated sample preparations due to failed PCR. Furthermore, the workflow can be automated on the QIAcube. The QIAamp Fast DNA Stool Mini Kit provides reliable and sensitive DNA purification, so you can focus on results.

Ordering Information

Product	Contents	Cat. no.
QIAamp Fast DNA Stool Mini Kit (50)	Spin columns, buffers, and reagents for 50 preparations	51604
Buffer AL	216 ml for 1000 preparations	19075
Buffer AW1 (concentrate)	242 ml Wash Buffer 1 Concentrate for 1000 preparations	19081
Buffer AW2 (concentrate)	324 ml Wash Buffer 2 Concentrate for 1000 preparations	19072
Buffer AE	240 ml Elution Buffer for 1000 preparations	19077
Collection Tubes (2 ml)	1000 Collection Tubes (2 ml)	19201
QIAcube	Robotic workstation for automated purification	Varies

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.

Get DNA from stool. Fast. Visit **www.qiagen.com/fast-DNA-stool**.