

Product Profile

UCP Multiplex PCR Kit

Superior multiplex PCR and unbiased metagenomics analysis

QIAGEN's new UCP™ Multiplex PCR Kit addresses the need for unbiased results in 16S rRNA gene sequencing, metagenomic shotgun sequencing and standard multiplex PCR. Accurate results begin with ultra-clean reagents. Contaminant DNA in PCR reagents can be a significant source of background and false positives. Our Ultra-Clean Production process and stringent quality control testing give you absolute certainty in your PCR reagents. Ultra-Clean reagents, combined with high multiplexing capacity, inhibitor-resistant amplification and minimization of GC bias make this kit an ideal choice for your most rigorous multiplex PCR applications.

The UCP Multiplex PCR Kit enables:

- No more background from residual DNA: with nucleic acid-depleted reagents
- Reliable, inhibitor-resistant amplification even with up to 70% GC content: for your most challenging samples like blood, stool and soil
- Sensitive multiplexing suited for genetic testing, quality control, gene sequencing and microbial detection
- Superior multiplexing capacity without competition between targets: with our unique, guard-protected, hot-start chemistry
- Automation-ready: stable, room temperature reaction setup and fast cycling protocol
- Easy confirmation of correct pipetting: with our integrated visual pipetting control



Figure 1. Simple color change confirms correct pipetting.

Superior sensitivity and specificity in your multiplex PCR with no background

The UCP Multiplex PCR Kit gives superior sensitivity and specificity compared to our competitors. Our unique multiplex PCR buffer promotes stable and efficient annealing, and our Ultra-Clean reagents ensure no background or false positives from contaminant DNA. ▷

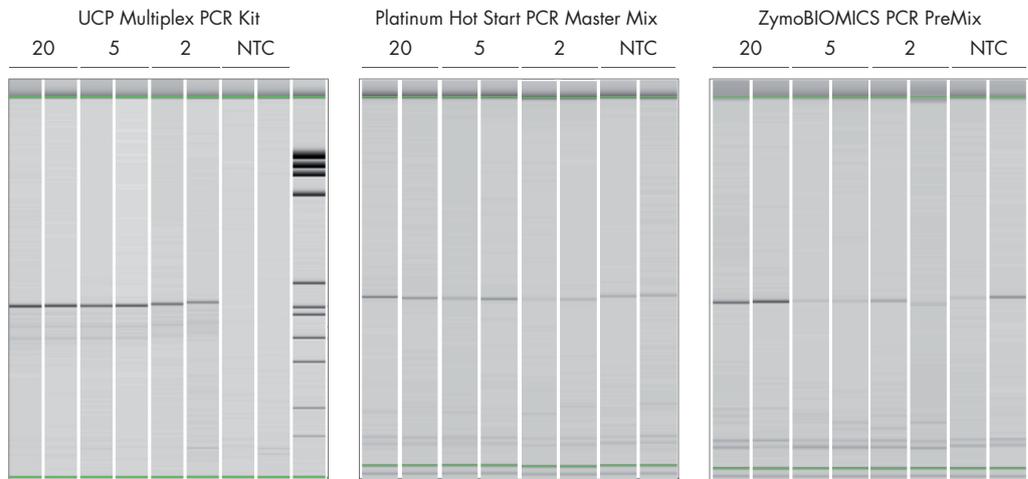


Figure 2. Advanced chemistry and Ultra-Clean reagents give the most sensitive results with no background. 16S sequences from 20, 5 and 2 *E. coli* genome equivalents were amplified. The UCP Multiplex PCR Kit reliably detects small input amounts without background; competitor kits were unable to distinguish small template amounts from Non-Template Control (NTC) background.

Reliable, inhibitor-resistant amplification of templates with 30 – 70% GC content with no optimization

Simplify your multiplex PCR, using the same robust protocol for all of your samples, regardless of GC content – with the added security of our superior inhibitor resistance.

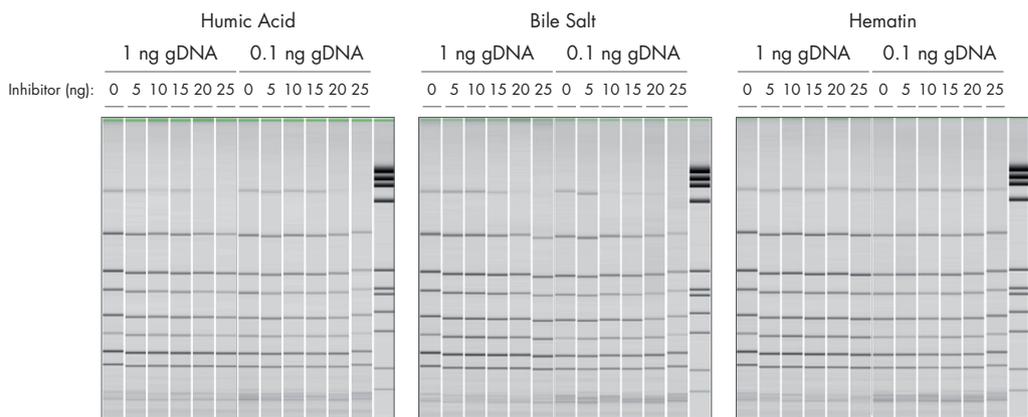


Figure 3. Superior resistance to common PCR inhibitors with different modes of action. Amplicons between 131 bp and 741 bp were amplified in 8-Plex reactions using 0.1 ng or 1 ng of human gDNA, with increasing amounts of inhibitors. Analysis was performed using the QIAxcel[®] electrophoretic system. PCR resistance to different inhibitors common to specific sample material with different modes of action was tested: humic acid, commonly found in soil samples; bile salts, found in stool; and hematin, found in blood samples, were used. Humic Acid is assumed to complex the DNA preventing amplification. Bile salt interacts directly with the Taq Polymerase inhibiting PCR. Hematin is known to complex magnesium, removing the cation from the metalloenzyme complex.

Sensitive microbial detection with no background – ideal for low biomass samples

Detect as little as 2 bacterial or 3 fungal genome equivalents.

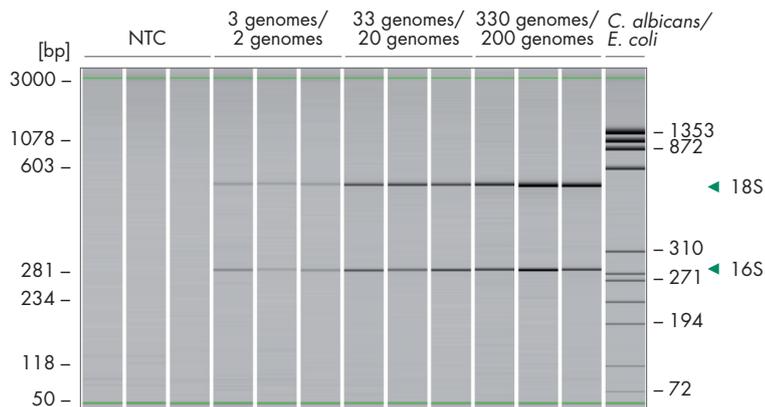


Figure 4. Sensitive microbial detection without background. PCR reactions of 38 cycles (each cycle: 10 s at 95°C, 30 s at 58°C, 15 s at 72°C) with a total run time of 65 minutes were analyzed using the QIAxcel electrophoretic system. As little as 2 *E. coli* genomes and 3 *C. albicans* genomes were detected with no amplification in the NTC reactions.

Sensitive automated detection, even with inhibitor-rich samples

Fully automatable workflow for high efficiency screening.

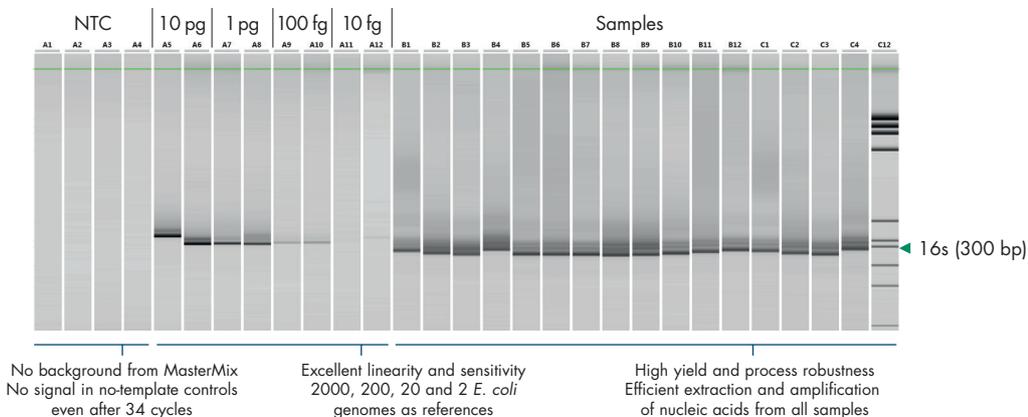
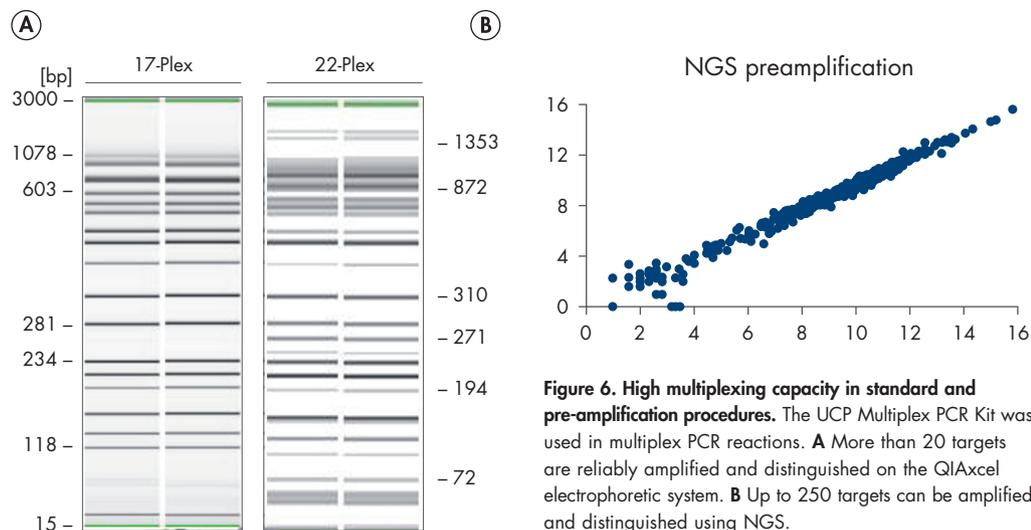


Figure 5. Complete workflow coverage. Stool samples were extracted on the QIAcube® HT instrument, using the QIAamp 96 PowerFecal QIAcube HT Kit. PCR reactions were set up on the QIAgility® instrument and analyzed on the QIAxcel electrophoretic system. All samples and diluted standards down to 10 fg (corresponding to 2 *E. coli* genomes) were successfully detected and NTC showed no background. The results demonstrate suitability in automated procedures from inhibitor rich samples for microbiome/metagenome screening or subsequent NGS analysis.

Amplify and distinguish over 20 targets using electrophoresis and up to 250 targets using NGS



Sensitive, robust multiplex PCR with even your most challenging samples

Count on the UCP Multiplex PCR Kit for robust, inhibitor-resistant amplification that overcomes GC content extremes and assay sensitivity that enables accurate detection even in low biomass samples.

Ordering Information

Product	Contents	Cat. no.
UCP Multiplex PCR Kit (100)	1 x 500 µl UCP Multiplex Master Mix (4x); 1 x 200 µl UCP Template Tracer, 25x; 1 x 50 µl UCP Master Mix Tracer, 125x; 1 x 1.9 ml UCP PCR Water	206742
UCP Multiplex PCR Kit (500)	5 x 500 µl UCP Multiplex Master Mix (4x); 1 x 200 µl UCP Template Tracer, 25x; 2 x 50 µl UCP Master Mix Tracer, 125x; 5 x 1.9 ml UCP PCR Water	206744

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.

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