

Life science research | New products

## Harnessing innovation to drive your life science advances

Your expectations of life science innovators are higher than ever before, and this fuels our desire to pioneer new discoveries to support your developments. So, we're delighted to be able to share our latest innovations and product improvements with you.

The highlights of this launch include our exciting new capillary electrophoresis system: QIAxcel® Connect. The enhanced platform utilizes ready-to-use gel cartridges capable of processing up to 96 DNA or RNA samples per run and hundreds of samples before re-set up. The fully automated design allows for simple, flexible, and cost-effective operation. Furthermore, a wide range of compatible QIAxcel kits provide high-sensitivity and high-resolution capabilities to assess integrity and size of samples including purified RNA, NGS libraries and circulating free DNA (cfDNA), or analyze PCR products, all in just a few minutes.

Some of our other innovations include the QIAcuity® OneStep Advanced Probe Kit and dPCR Microbial DNA

Detection Assays delivering innovation in wastewater SARS-Cov-2 surveillance and the potential to extend surveillance to other viruses, such as norovirus.

We're also excited about our new product for microbiome stabilization. PowerProtect DNA/RNA is our first dedicated microbiome stabilization solution for DNA and RNA from stool samples. While RNeasy® PowerFecal® Pro and AllPrep® PowerFecal Pro DNA/RNA Kits make advances in metatranscriptomics – providing a gold standard for RNA extraction from stool samples.

Of course, innovation isn't just about bringing you great products. In September, we're hosting our first Innovation Forum, an online event covering a wide range of fields and labs.

With an educational focus, it will enable participants to discuss research challenges, gain new perspectives, connect with researchers from their own and other fields – and, importantly, have fun!



Get all information you need about the forum at [www.qiagen.com/Innovation-Forum](https://www.qiagen.com/Innovation-Forum)

## Innovation in automated DNA and RNA gel analysis

### Effortless, cost-effective, high-resolution DNA and RNA analysis

**QIAxcel Connect** combines analytical capability, simplicity and low running costs to offer convenient, fully automated analysis of DNA and RNA with a flexible throughput. With high-sensitivity DNA and RNA analysis, a new touch and feel, updated software and QIASphere integration, the QIAxcel Connect now enables low-concentration RNA quality control as well as emerging DNA applications, including dilution of precious or scarce samples.



### High-sensitivity DNA and RNA analysis on QIAxcel Connect

The new **QIAxcel DNA High-Sensitivity Kit** and **QIAxcel RNA High-Sensitivity Kit** enable fully automated analysis of DNA and RNA, respectively, with a flexible throughput and low cost per sample. Both kits come with alignment and size markers so you can use them right out of the box.



The kits offer:

- Fully automated quality control
- Limit of detection down to 5 pg/μl (DNA) and 50 pg/μl (RNA)
- 1200 samples per cartridge with a run time of approx. 10 min for 12 samples
- Accurate analyses with a resolution of 20–50 bp (DNA kit)
- Robust quality control of DNA and NGS library assessment (DNA kit)

## Innovation in digital PCR



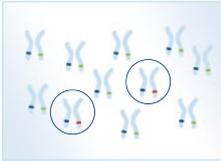
### One-step RT-PCR on QIAcuity digital PCR instruments

The **QIAcuity OneStep Advanced Probe Kit** enables sensitive quantification of RNA targets on QIAcuity digital PCR instruments in one combined RT-PCR reaction. The kit enhances the specificity and efficiency of probe-based digital PCR to provide accurate, singleplex, or up to 5-plex analysis. The hot-start reverse transcription (RT) enzyme enables room-temperature reaction setup in parallel. Setup and simultaneous loading of multiple Nanoplates into QIAcuity Four and Eight instruments is also possible.



### Digital PCR detection of microbial targets

The huge growth in wastewater SARS-Cov-2 surveillance means there is great interest in extending this technology to other viruses such as norovirus or other water microbes. Our new **dPCR Microbial DNA Detection Assays** use a fast and simple dPCR workflow on the QIAcuity to detect microbial species, virulence genes, viruses or antibiotic resistance genes (more than 680 targets in total) and enable multiplexing of up to five targets per reaction.



## Rapid, accurate and cost-effective gDNA copy number quantification using dPCR

Our new **dPCR CNV Probe Assays** with different fluorophores enable precise DNA copy number detection and quantification using the QIAcuity dPCR System. Up to five different targets including a reference can be screened in a single reaction, delivering cost-effective, high-throughput analyses. You can now choose from over 200 assays – all wet-lab tested and validated to ensure high performance.

## Innovation in genomics

### Low-input RNA-seq library construction for whole transcriptome or 3' RNA-seq starting from total RNA or enriched mRNA

RNA-seq is a high-demand application across life science and translational research with an increasing need for low-input kits for full transcriptome analysis that also work well with low-quality RNA samples. Our new **QIAseq® UPXome RNA Library Kits** – used with sample amounts from 500 pg to 100 ng RNA – meet your need. An integrated ribosomal RNA removal step during RNA fragmentation means you can obtain high-quality data in <6 hours. The ability to ultraplex and pool cDNA reaction allows you to run more samples and with around 95% less disposable plastic and reagents after cDNA pooling.



## Innovation in microbial technologies



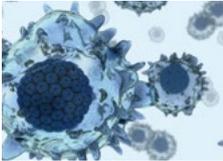
### Stabilization and preservation of the microbial community profile and expression profile in stool samples

Introducing our first dedicated microbiome stabilization solution. **PowerProtect DNA/RNA** covers both DNA and RNA and maintains the integrity of the microbial community and functional profile during sample transport and storage before nucleic acid extraction. It is designed for use with Power Pro and Power kits intended for use with stool samples and enables nucleic acid stabilization in room temperature.



### Purification of microbial RNA and simultaneous purification of microbial DNA and RNA for metatranscriptomics

Our **RNeasy PowerFecal Pro** and **AllPrep PowerFecal Pro DNA/RNA Kits** have both been improved to meet even higher demands. Based on QIAamp® PowerFecal Pro DNA chemistry, both kits use PowerBead Pro Tubes and enable efficient removal of inhibitors using our streamlined second-generation Inhibitor Removal Technology® – for higher RIN values. The RNeasy PowerFecal Pro Kit is for purification of microbial RNA from stool and gut material. The AllPrep PowerFecal Pro Kit is for simultaneous purification of microbial DNA and RNA from the same stool sample in two separate eluates.



## High-quality targeted viral and bacterial sequencing using hybrid capture

Increasingly, researchers are using next generation sequencing (NGS) for virology and targeted microbiology. The hybrid-capture-based approach of our new **QIAseq xHYB Viral/Bacterial Panels** offers superior detection of large ranges of viral/AMR targets. The panels benefit from FastSelect™ for blocking of rRNA, resulting in superior unique mapped reads-on-target and up to 384 samples can be multiplexed when paired with the QIAseq FX DNA Library Kit. Rapid data analysis and variant interpretation eliminates the data bottleneck and reduces the overall turnaround time.

## Innovation in automated sample technologies

### Dedicated QIAcube® Kits further expand the QIAcube Connect portfolio

Over 80 of our spin-column kits for processing DNA, RNA or protein samples can already be automated on QIAcube, but our new, dedicated QIAcube Connect kits make purification of genomic DNA, RNA and viral RNA more convenient than ever. Rotor-adapters that come with the kits are pre-loaded with spin columns and elution tubes, so you can use them right out of the box.



All three new kits contain everything you need for 240 automated preps and are adapted to minimize plastic waste.

- **DNeasy® PowerSoil Pro QIAcube Kit** – for automated isolation of microbial genomic DNA from all soil types
- **QIAamp PowerFecal Pro DNA QIAcube Kit** – for automated isolation of microbial DNA from stool and gut samples
- **DNeasy Blood & Tissue QIAcube Kit** – for automated extraction of total DNA from animal blood and tissues and from cells, yeast, bacteria or viruses



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