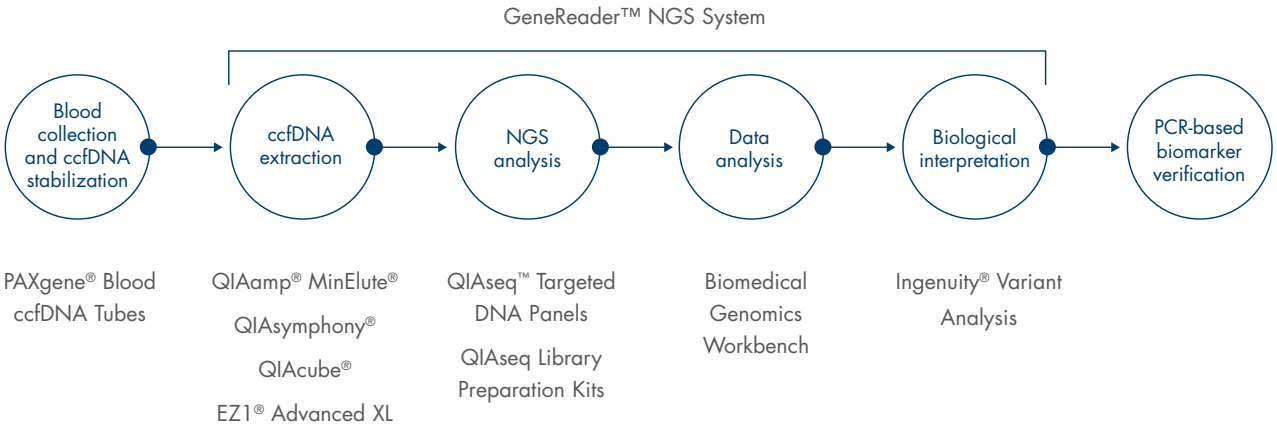
Cell-free DNA and NGS

Our expert solutions include a complete portfolio covering sample collection and extraction, next-generation sequencing (NGS) and analysis and interpretation. We aim to provide the highest quality tools to equip you to obtain invaluable insights from your liquid biopsy samples.



Research use only workflow

QIAGEN

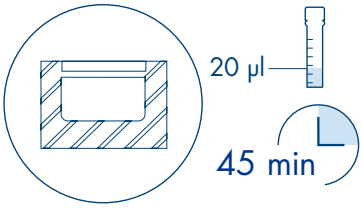
Blood collection and stabllization

PAXgene Blood ccfDNA Tube
(cat. no. varies)

- Cell-free DNA stabilization with non-crosslinking chemistry
- Suitable for a wide range of downstream applications
- Sample transport for up to 7 days at 2–30°C or up to 1 day at 37°C
- Standardized processing of samples with integrated isolation

Cell-free DNA (ccfDNA) preparation

Manual

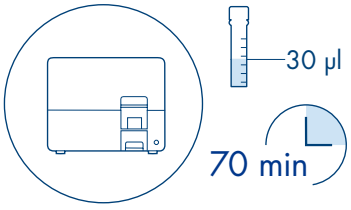


QIAamp MinElute ccfDNA Mini Kit
cat. no. 55204; 1–4 ml plasma

QIAamp MinElute ccfDNA Midi Kit
cat. no. 55284; 4–10 ml plasma

- High concentrations of ccfDNA with low (20 µl) elution volumes
- Low frequency variant detection with scalable sample input volumes (1–10 ml)
- High yields similar to the gold standard
- Automatable on QIAcube®

Automated on QIAcube – up to 12 samples



QIAcube
cat. no. 9001882

- Automation of the spin-column procedure
- All contained within a single square meter

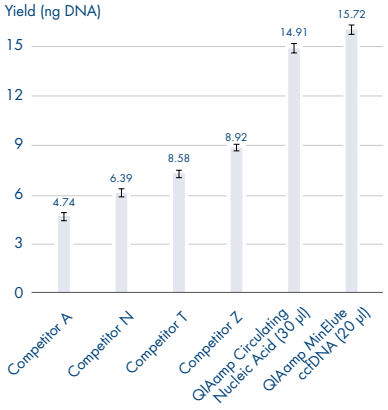
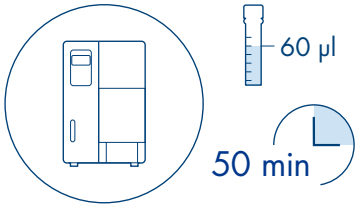


Figure 1. Higher DNA yields with the QIAamp MinElute ccfDNA Kit.
Total yield of a 66 bp ccfDNA fragment from 4 ml of plasma is shown using the QIAamp MinElute ccfDNA Kit compared with 5 other commercially available kits. Results show that the QIAamp MinElute ccfDNA Kit provided higher DNA yield than competitor solutions.

Automated on EZ1 Advanced XL – up to 14 samples

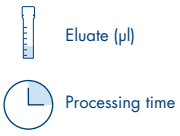


EZ1 ccfDNA Mini Kit
cat. no. 954134; 1–4 ml plasma

EZ1 ccfDNA Midi Kit
cat. no. 954154; 4–10 ml plasma

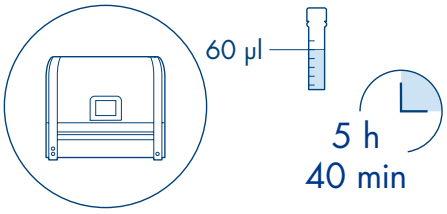
EZ1 Advanced XL System
cat. no. 9001874

- Convenient automation
- Standardized yields and efficient ccfDNA recovery
- Effortless data management and secure user environments



ccfDNA preparation on QIAsymphony SP for research applications

Up to 96 samples



QIAsymphony PAXgene Blood ccfDNA Kit (192)
cat. no. 768536

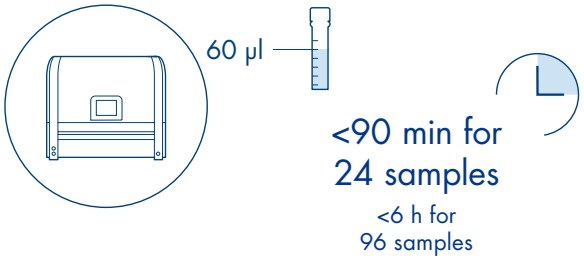
- Optimized isolation chemistry for plasma generated in PAXgene Blood ccfDNA Tubes
- Option for direct primary tube processing of PAXgene Blood ccfDNA Tubes

QIAsymphony SP
cat. no. 9001297; 2.4 ml or 4.8 ml plasma

- Fully automated sample preparation
- Prefilled, ready-to-use reagent cartridges
- Bar code reader for reagents and sample tracking

ccfDNA preparation on QIAsymphony SP for diagnostic applicatons

Up to 96 samples

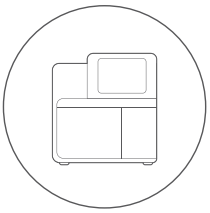


QIAsymphony DSP Circulating DNA Kit
cat. no. 937556; 2 ml or 4 ml plasma or urine

- Automated purification of ccfDNA from human plasma and urine
- Workflow compatibility with a wide range of blood collection tubes

Cell-free DNA (ccfDNA) sequencing

Whole genome/whole exome sequencing

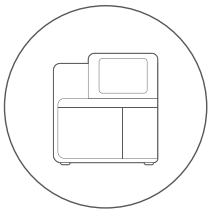


QIAseq cfDNA Library Kit
cat. no. 180015
For use on Illumina® sequencers

QIAseq cfDNA Library T Kit
cat. no. 1102308
For use on Ion Torrent™ Sequencers

- Superior conversion of ccfDNA through highly efficient ligation chemistry
- NGS library preparation optimized for variable cell-free DNA input amounts

Targeted DNA panel sequencing



QIAseq Targeted DNA Panels
A wide range of catalogued, extended, booster or custom DNA panels

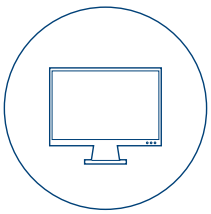
- Low frequency variant detection with unique molecular indices and single primer extension
- The Human Comprehensive Cancer QIAseq DNA Panel – a large gene panel covering 275 genes for identifying the major mutations in each tumor, plus potentially novel molecular mechanisms

Data analysis and interpretation

Software solutions built for biologists and configured specifically to help you detect and interpret variants

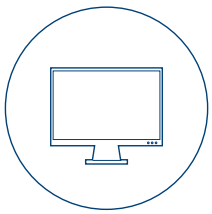
New release

Biomedical Genomics Workbench 5

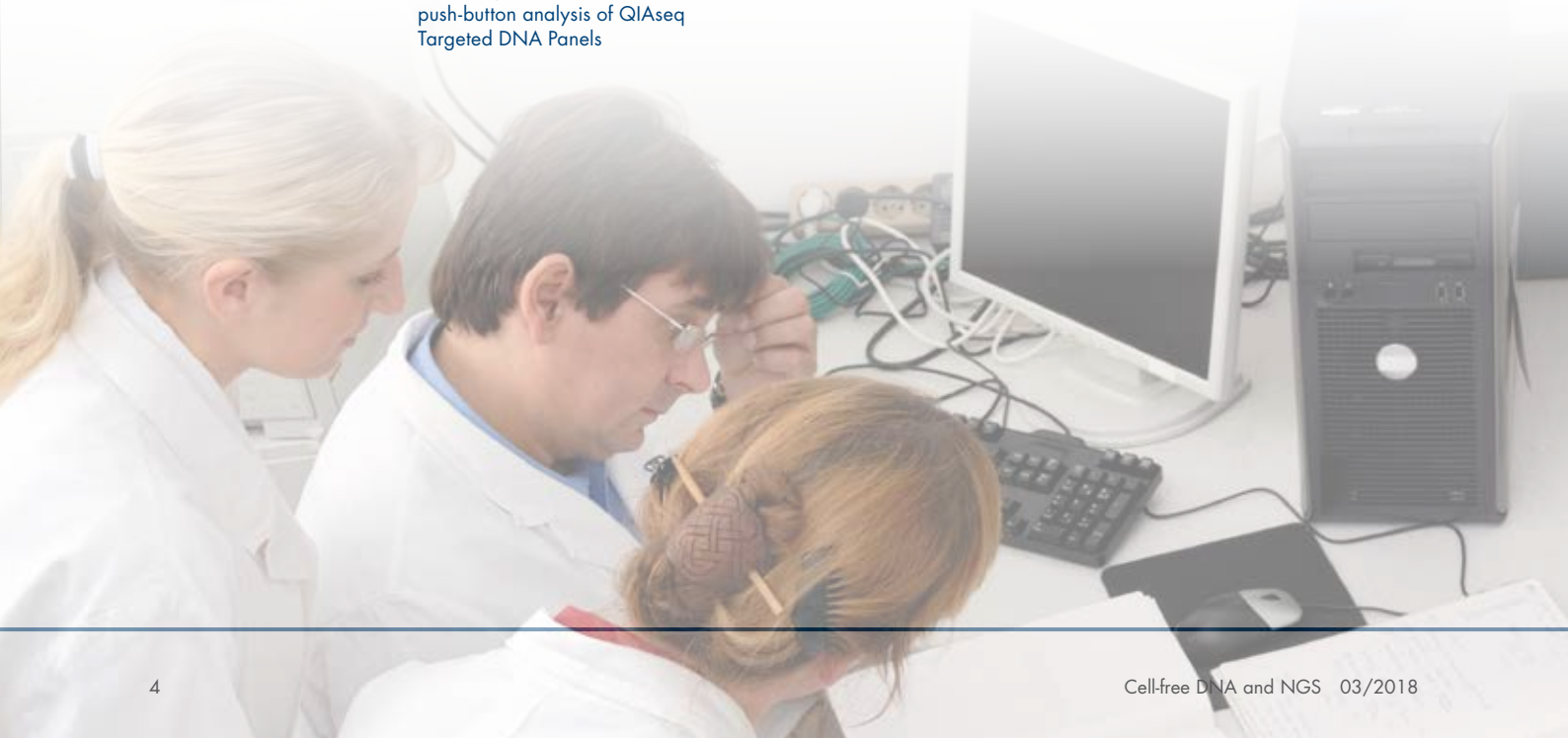


- Accurate variant detection at 1% minor allele frequency (MAF) or lower
- Identification of multiple types of variation, from single nucleotide to copy number to insertions and deletions
- Pre-configured workflows for push-button analysis of QIAseq Targeted DNA Panels

Ingenuity Variant Analysis



- Cancer-driver variations uncovered with more confidence
- Powered by the world's most comprehensive knowledge base for genome interpretation
- Intuitive options for filtering variants like biological context and statistical association



Methylation analysis by sequencing

QIAseq Methyl Library Kit (24)
cat. no. 180502

- High-quality libraries
- Low DNA input requirements

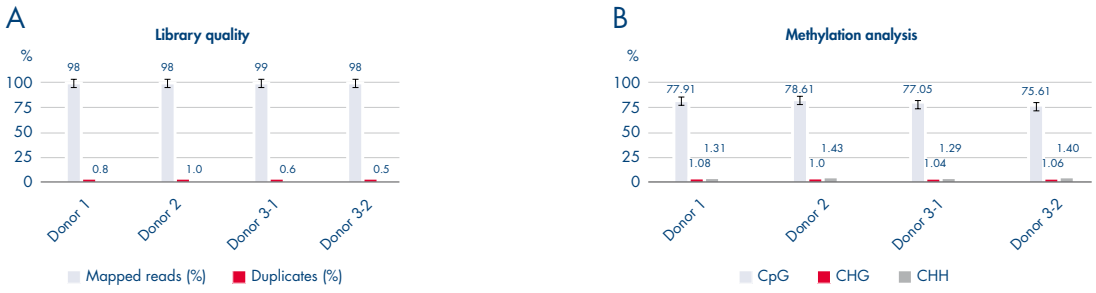
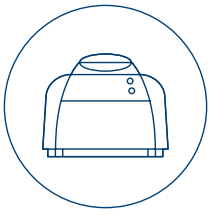


Figure 2. High mapping rate for accurate methylation analysis from low input ccfDNA. ccfDNA was purified using the QIAamp MinElute ccfDNA Kit. Purified ccfDNA from different donors was processed through the QIAseq Methyl WGBS workflow. ccfDNA was converted using the EpiTect fast kit. Total converted DNA was used to prepare libraries using the QIAseq Methyl DNA library kit. Libraries were sequenced on MiSeq®. Data was analyzed using the CLC Genomics Workbench Bisulfite sequencing Plugin.
A. High-quality libraries can be generated as evidenced by the high percentage of mapped reads, and the low percentage of duplicate reads. **B.** Accurate methylation analysis can be achieved across 4 donors.

PCR-based biomarker verification

Real-time PCR



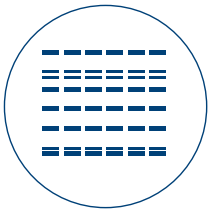
QuantiNova® Probe PCR Kit
cat. no. 208252

QuantiNova SYBR® Green PCR Kit
cat. no. 208052

QuantiNova Multiplex PCR Kits
cat. no. 208452)

- Highly sensitive, specific, real-time PCR
- For probe-based or SYBR Green-based PCR
- Singleplex or multiplex

Endpoint PCR

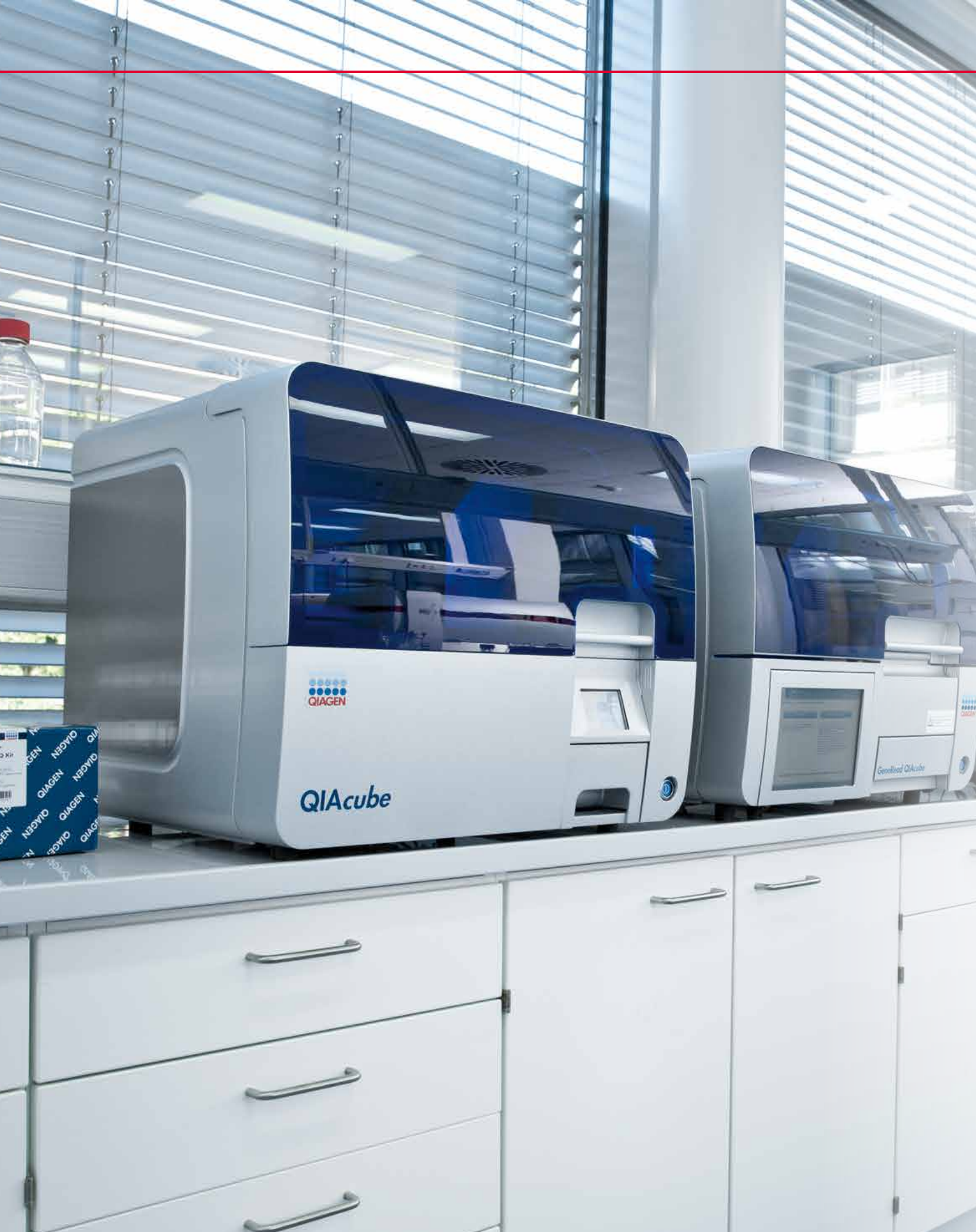


QIAGEN Multiplex PCR Kits
cat. no. 206143

- Highly specific and sensitive multiplex PCR without optimization requirements

QIAGEN AllTaq PCR Kits
cat. no. 203123

- Reliability for all routine PCR applications and assays with integrated safety and convenience features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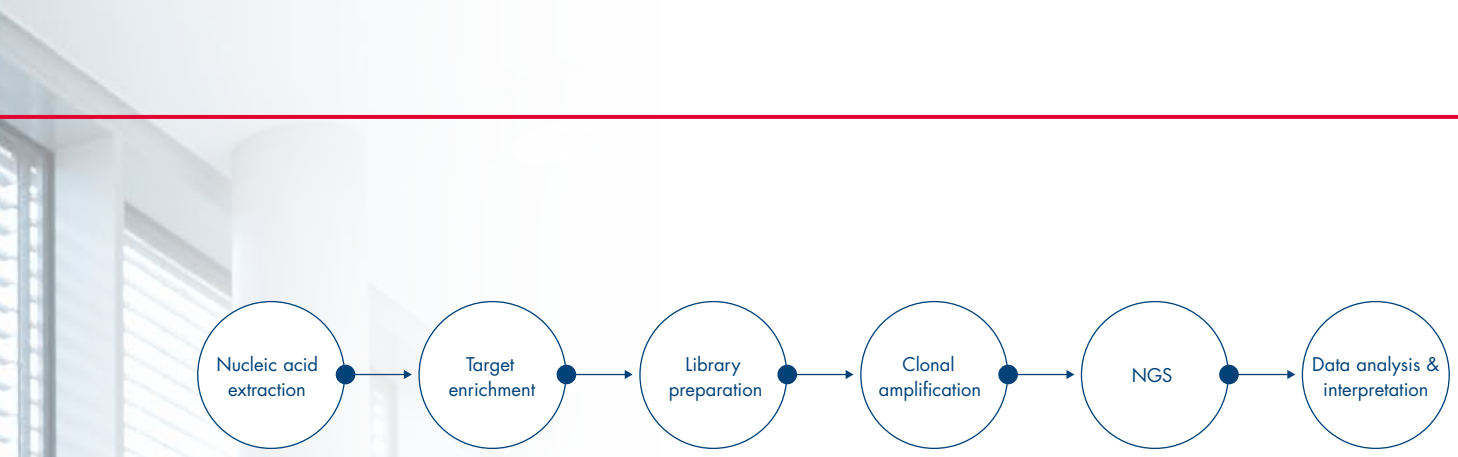


GeneReader NGS System

Complete Sample to Insight® workflow takes you all the way to actionable insights

GeneRead QIAact Lung DNA UMI Panel Kit
cat. no. 181930

- One-stop NGS assay solution covering known actionable single nucleotide variants (SNV), InDels and CNVs
- Designed to detect 549 hotspot variants at 335 positions and 5 CNVs from 19 genes of known relevance to clinical lung cancer research

GeneReader Platform
cat. no. 9002312

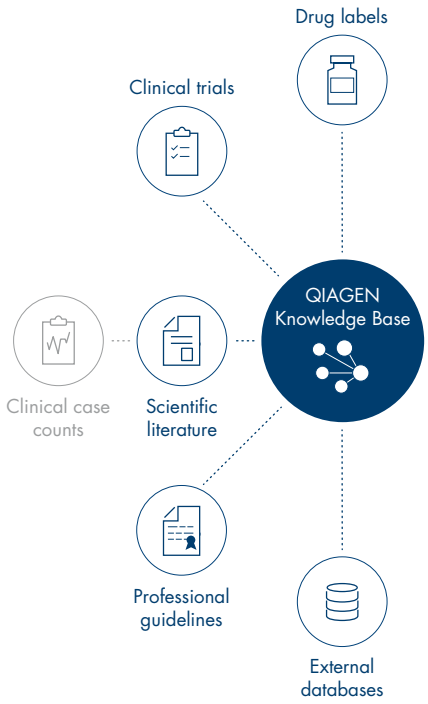
- NGS instrument
- Fully embedded into the Sample to Insight GeneReader NGS System

QCI Analyze
cat. no. 188001

- Bioinformatic complement to the GeneReader NGS System for variant identification

QCI Interpret
cat. no. 830371

- Advanced software enterprise
- Specifically designed for clinical-grade genomic testing laboratories
- Provides evidence-based clinical decision support solutions
- Enables interpretation and reporting of NGS cancer test results to your oncologists with confidence, accuracy and clinical utility



Gain additional insights from your liquid biopsy ccfDNA samples by visiting **www.qiagen.com/ccfdna**

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