QIAseq Human Exome Kit

Detect pathogenic variants with confidence, ease and efficiency

- Discover more disease-causing variants using less sequencing resources
- Achieve excellent capture efficiency and specificity using highly optimized chemistry and scalable workflow
- Attain deep coverage even within challenging regions – typically missed by alternative exome kits on the market

Exceptional sequencing efficiency and coverage uniformity

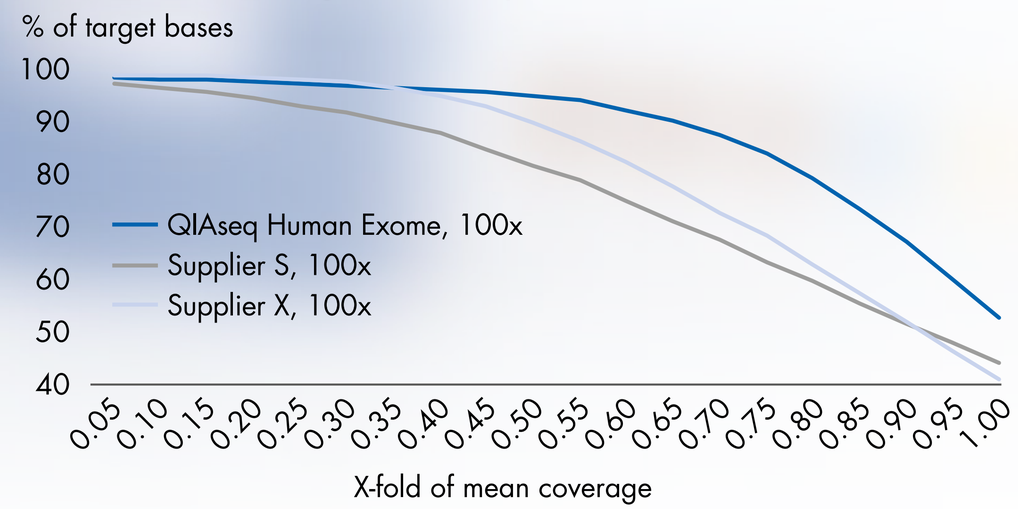
Confident variant detection for all targets with up to 50% less sequencing

Sequencing efficiency

	QIAseq Human Exome	Supplier X	Supplier S
Fold-80 penalty	1.3	1.5	1.7
% duplicates	0.5%	1.6%	3.6%
Sequencing required for 95% at 30x*	8 Gb	10 Gb	15 Gb
Throughput per run (samples)	15	12	8
Estimated sequencing cost (NextSeq 550, high output)§	$160	$200	$300

* Based on NextSeq 2 x 150
§ Assumes approximately $20/Gb for NextSeq 2 x 150

Coverage uniformity for 100x exomes

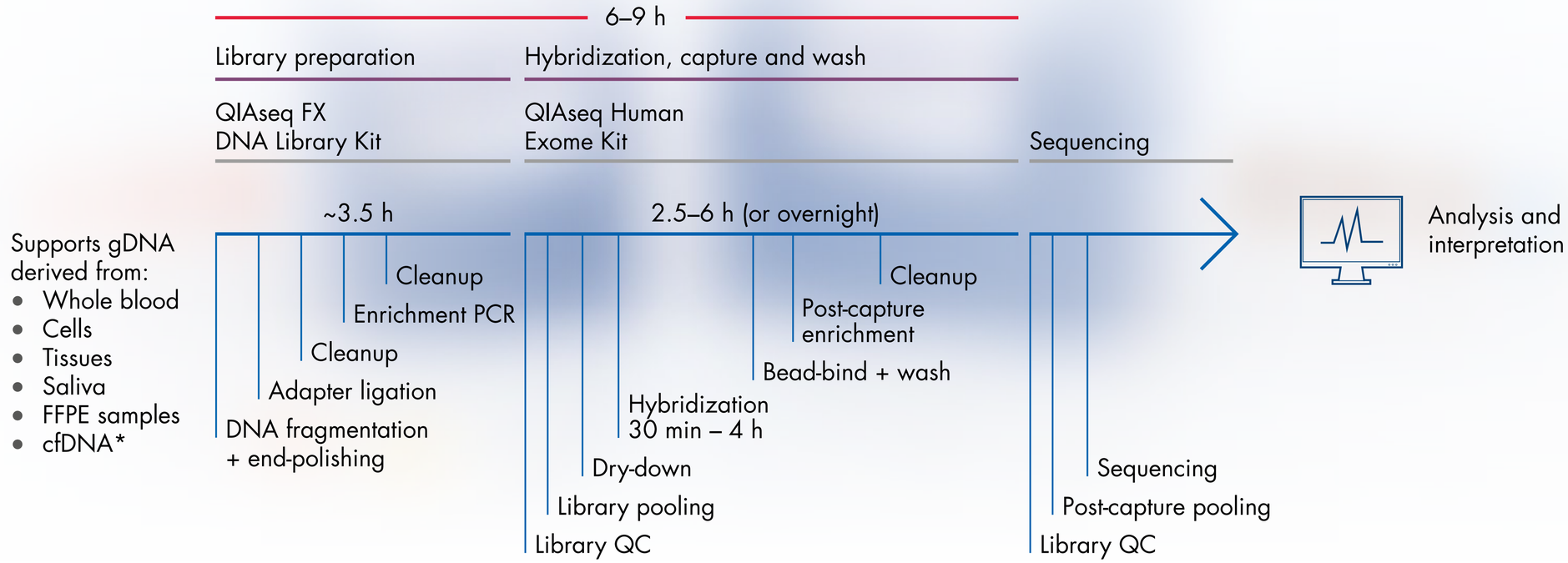


Data provided by QIAGEN R&D

- Less sequencing requirement – 46% less than Supplier S and 20% less than Supplier X
- Almost 2 times more samples per run on a NextSeq 550

One-day, automation-compatible and scalable sample to sequencing workflow

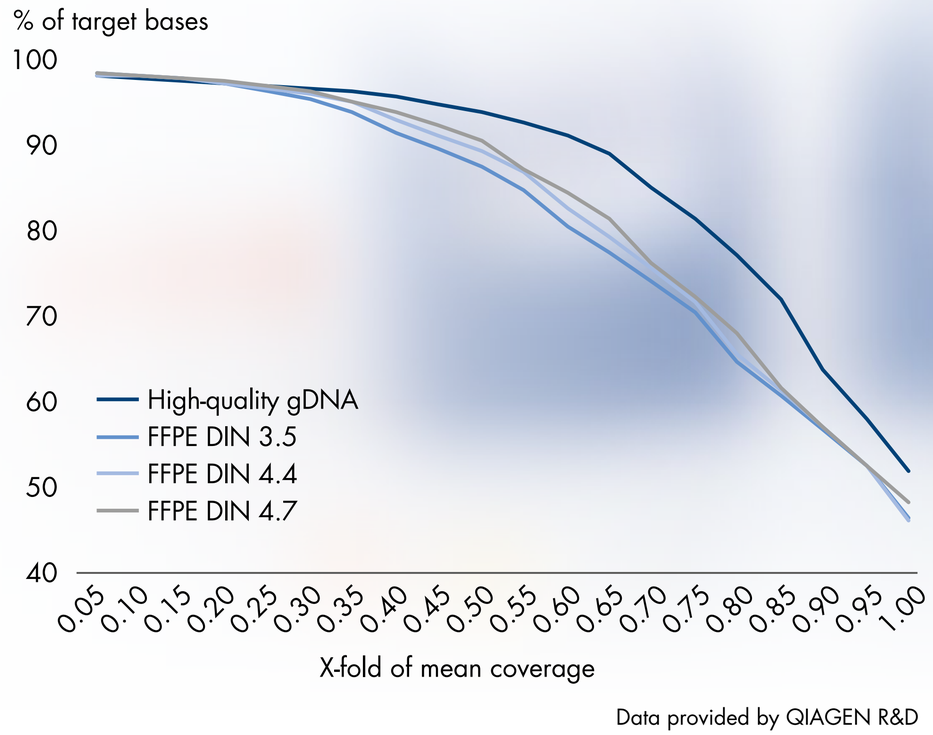
Sequencing-ready human exome libraries from human gDNA in a single day



* Free-circulating cfDNA can also be used as sample material together with the specific library preparation kit (QIAseq cfDNA Library Kit).

Compatible with a wider range of sample inputs

High coverage uniformity even with low-quality starting material



Data provided by QIAGEN R&D

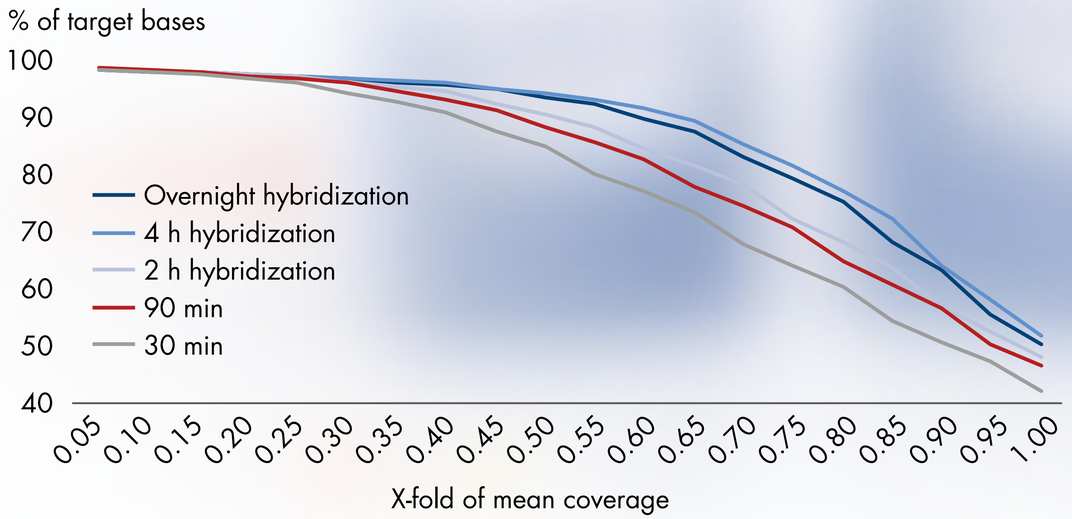
Choose the right library prep kit for your sample

QIAseq Library Kits	Application
QIAseq FX DNA Library Kits	For enzymatically-fragmented gDNA and formalin-compromised DNA
QIAseq Ultralow Input Library Kits	For physically-sheared gDNA and formalin-compromised DNA
QIAseq cfDNA Library Kits	For cfDNA from plasma

- Coverage uniformity was not compromised even while using low-input and low-quality FFPE samples

Flexibility for workflow customization to support specific application needs

Robust chemistry maintains high coverage uniformity despite reduced hybridization times



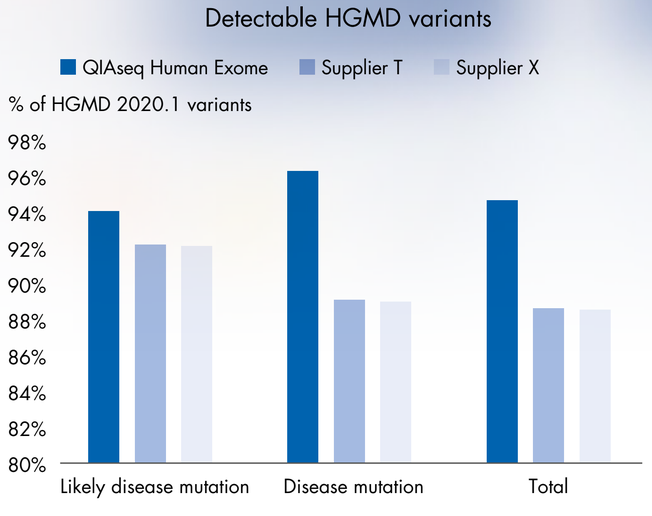
- Even with as little as 30 minutes hybridization time, more than 80% of all target bases are covered with at least 50% of the mean coverage
- Extended hybridization can help increase the coverage uniformity until optimal performance is reached at 4 hours
- Overnight hybridization results in similar levels of high coverage uniformity of targets without negatively impacting analytical specificity (data not shown)

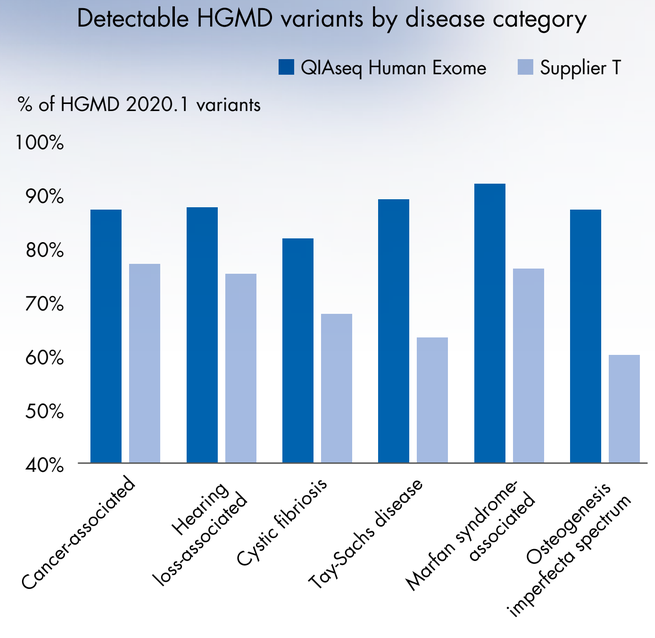
Superior detection of disease-causing variants with less sequencing effort

Detect more pathogenic HGMD mutations relevant for common groups of heritable diseases

	QIAseq Human Exome	Supplier T	Supplier X
ROI size*	33.936 Mb	36.715 Mb	34.156 Mb
Detectable HGMD disease mutations	483.494 (94.7%)	452.930 (88.7%)	352.448 (88.6%)
Missed HGMD disease mutations	19.840 (4.06%)	50.310 (10.30%)	50.770 (10.40%)

*ROI: Region of interest

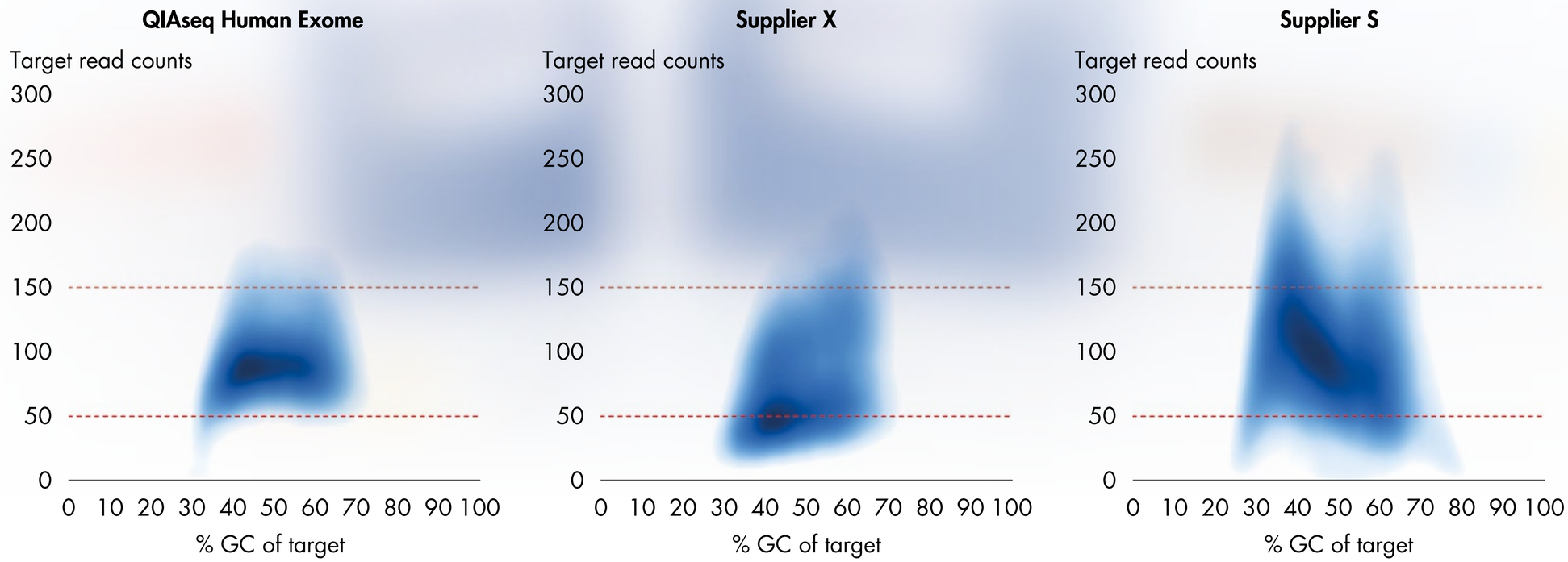




Data provided by QIAGEN R&D

Uniform coverage of targets across a wide range of GC content

Highly optimized chemistry and workflow minimize GC bias, improving capture efficiency and specificity



Data provided by QIAGEN R&D

- Balanced coverage across targets irrespective of GC content ensures minimal drop-outs and false negatives

Ordering Information

Product	Content	Cat. no.
QIAseq Human Exome Kit (24)	For 3 hybridization capture reactions to process up to 24 Illumina-compatible libraries in pools of 8; contains probes, blocking oligos and reagents for hybrid capture and post-hybrid capture amplification for whole exome enrichment; requires separate purchase of QIAseq FX DNA Library UDI Kit (24)	333937
QIAseq Human Exome Kit (96)	For 12 hybridization capture reactions to process up to 96 Illumina-compatible libraries in pools of 8; contains probes, blocking oligos and reagents for hybrid capture and post-hybrid capture amplification for whole exome enrichment; requires separate purchase of QIAseq FX DNA Library UDI Kit (96), support for up to 384 UDIs enabled, sold in sets of 96 (Sets A–D)	333939
QIAseq FX DNA Library UDI Kit (24)	Buffers and reagents for DNA fragmentation (including end repair and A-addition), ligation and library amplification; for use with Illumina instruments; includes a plate containing 24 Unique Dual Index Y-adapters	180477
QIAseq FX DNA Library UDI-A Kit (96)	Buffers and reagents for DNA fragmentation (including end repair and A-addition), ligation and library amplification; for use with Illumina instruments; includes a plate containing 96 Unique Dual Index Y-adapters	180479
QIAseq FX DNA Library UDI-B Kit (96)		180480
QIAseq FX DNA Library UDI-C Kit (96)		180481
QIAseq FX DNA Library UDI-D Kit (96)		180482

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