

Ion AmpliSeq Exome RDY Kit

High uniformity and simplified workflows



Easy exome sequencing

The Ion AmpliSeq™ Exome RDY Kit enables the fastest and simplest exome enrichment, with oligo pools for ultrahigh-multiplex PCR exome enrichment dried down in a 96-well plate. With half the number of target amplification pipetting steps compared to the original protocol, and the elimination of small pipetting volumes, exome libraries can now be produced with superior ease, typically in under 6 hours with less than 50 minutes of hands-on time. The Ion AmpliSeq Exome RDY Kit is also compatible with the Ion Library Equalizer™ Kit for ease of library normalization. The Ion AmpliSeq Exome RDY Kit enables high-efficiency enrichment, with more than 90% on-target bases and more than 90% bases covered at 20x (Figure 1). Leveraging the ultrahigh-multiplex PCR approach of Ion AmpliSeq™ technology along with the Ion S5™ XL System, the Ion AmpliSeq Exome RDY Kit allows rapid sequencing of key exonic regions of the genome, enabling you to go from DNA to variants in just 2 days (Figure 2).

• Easy exome enrichment

Simplicity, specificity, and the speed of PCR, with less than 50 minutes of hands-on time with dried-down primers

• On-demand exome sequencing

Flexible throughput of 1–3 exomes per run, or up to 80 exomes per week

• Integrated bioinformatics

Easy, integrated software workflow delivers a focused list of annotated variants

“Ion AmpliSeq Exome RDY provides the simplest exome enrichment. The dried-down primers reduce the number of pipetting steps and allow preparation of reproducible libraries that sequence with high uniformity. The straightforward workflow—similar to PCR—allows for someone with little to no next-generation sequencing experience to successfully perform the protocol.”

Richard Allcock

Director, Lotterywest State Biomedical Facility Genomics School of Pathology and Laboratory Medicine The University of Western Australia

Get the data (under the Datasets tab) and see for yourself at

thermofisher.com/ioncommunity

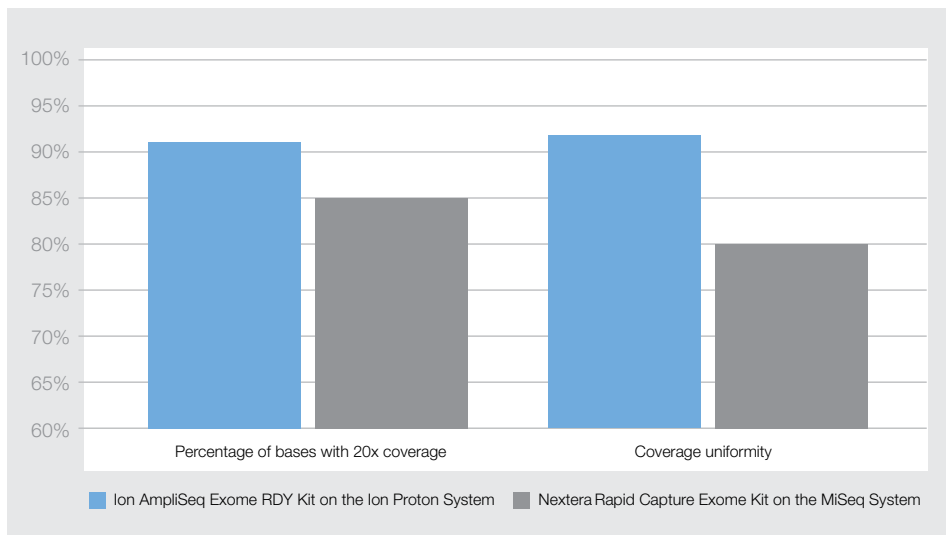


Figure 1. Ion AmpliSeq Exome RDY Kit results, based on an average of 22 exomes across 11 sequencing runs. The coverage data for the Illumina™ Nextera™ Rapid Capture Exome Kit were obtained from the BaseSpace Blog by Illumina. The uniformity value was obtained from the Nextera Rapid Capture Exome Kit data sheet.

Simple and efficient exome enrichment

The Ion AmpliSeq Exome RDY Kit requires less than 50 minutes of hands-on time, enabling enrichment of 1 to 8 samples in less than 6 hours. The kit requires the least hands-on time when compared with other exome enrichment technologies (Figure 3), and as little as 50 ng of input DNA can be used. The combination of the Ion S5 XL System, the Ion Chef™ System (for fully automated template preparation), and a simplified analysis workflow makes Ion AmpliSeq exome sequencing the simplest and most cost-effective solution in the market.

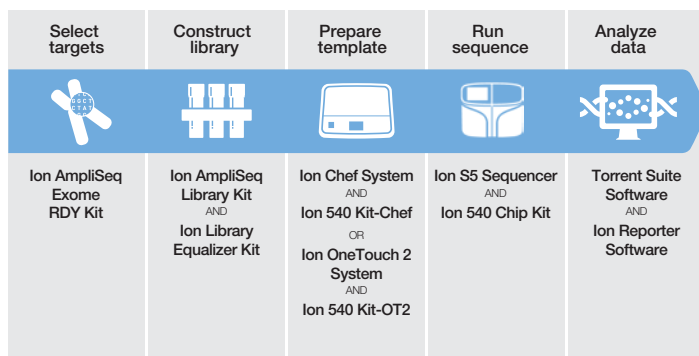


Figure 2. Ion AmpliSeq Exome RDY 2-day workflow for 1–3 exomes, from DNA to annotated variants.

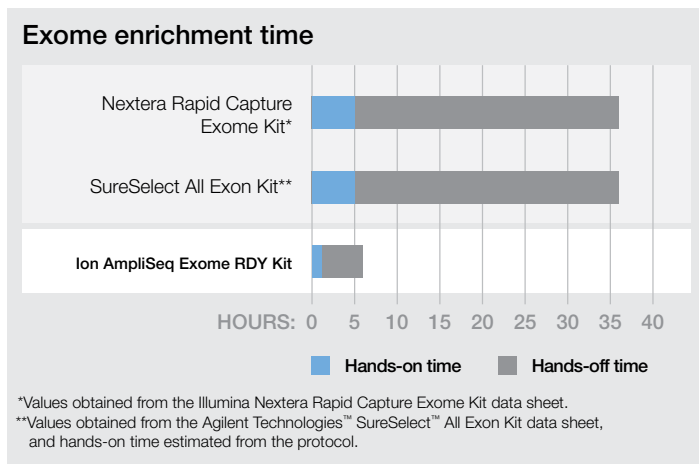


Figure 3. Comparison of hands-on and total turnaround time for a single exome enrichment workflow.

Ion AmpliSeq Exome RDY Panel

Targets	>97% of CCDSs with 5 bp padding around exons
Primer pool size	~294,000 primer pairs across 12 primer pools
Input DNA required per sample	50–100 ng
Exome enrichment and library construction time	<6 hours total turnaround time, with <50 minutes of hands-on time
Time-to-results	2 days from DNA to variants
Sample multiplexing	Ion 540™ chip accommodates 1–3 exomes per run

Ordering information

Product	Cat. No.
Ion AmpliSeq Exome RDY Kit 1x8	A29854
Ion AmpliSeq Exome RDY Kit 4x2	A29855
Ion 540 Kit-Chef	A27759
Ion 540 Kit-OT2	A27753
Ion 540 Chip Kit (8 rxn)	A27766
Ion Library Equalizer Kit	4482298
Ion Library Quantitation Kit	4468802
Ion Reporter Software (thermofisher.com/ionreporter)	—

See the Ion AmpliSeq exome kit difference at thermofisher.com/ionexome

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