

Simple, high quality, and cost-effective library preparation solutions for NGS

Yi Jin, Hongbo Liu, Marissa Bolduc, David Bays, Eleanor Kolossovski, Brian Komorous, and David Schuster
100 Cummings Centers 407J, Beverly, MA. 01915

Quantabio's NGS Reagent Portfolio

sparQ DNA Library Prep Kit

- Simplified 2-step protocol in a single tube speeds up sample prep to 2.5 hours and minimizes sample loss
- Increased library yield enables construction of high quality DNA libraries from low input (250 pg) DNA samples
- Minimized bias improves coverage across difficult to sequence regions ensuring optimal results and reduced coverage gaps
- Improved overall sequencing workflow economics

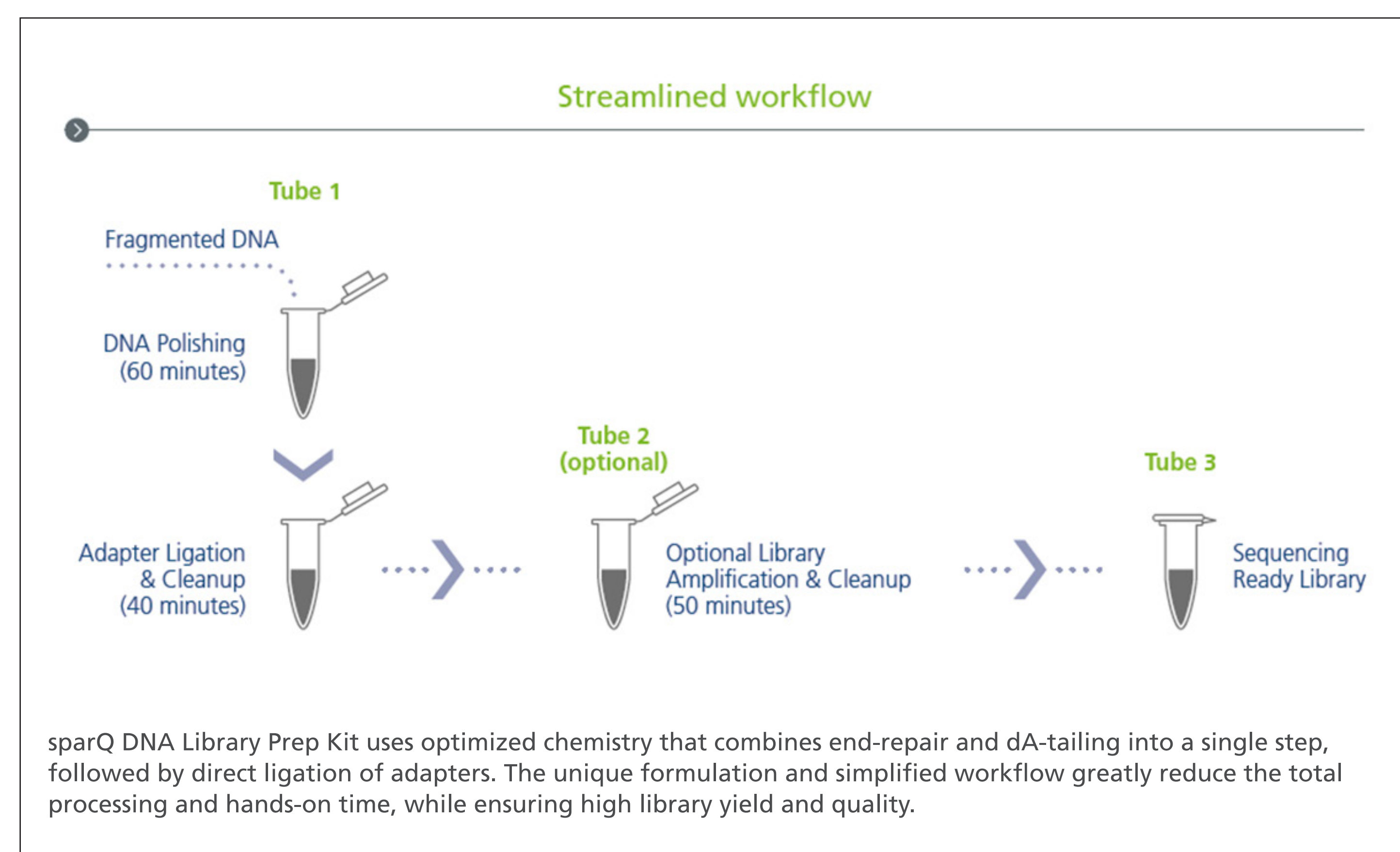
sparQ HiFi PCR Master Mix

- A high efficiency, high-fidelity and low bias PCR master mix for NGS workflows requiring DNA library amplification prior to sequencing

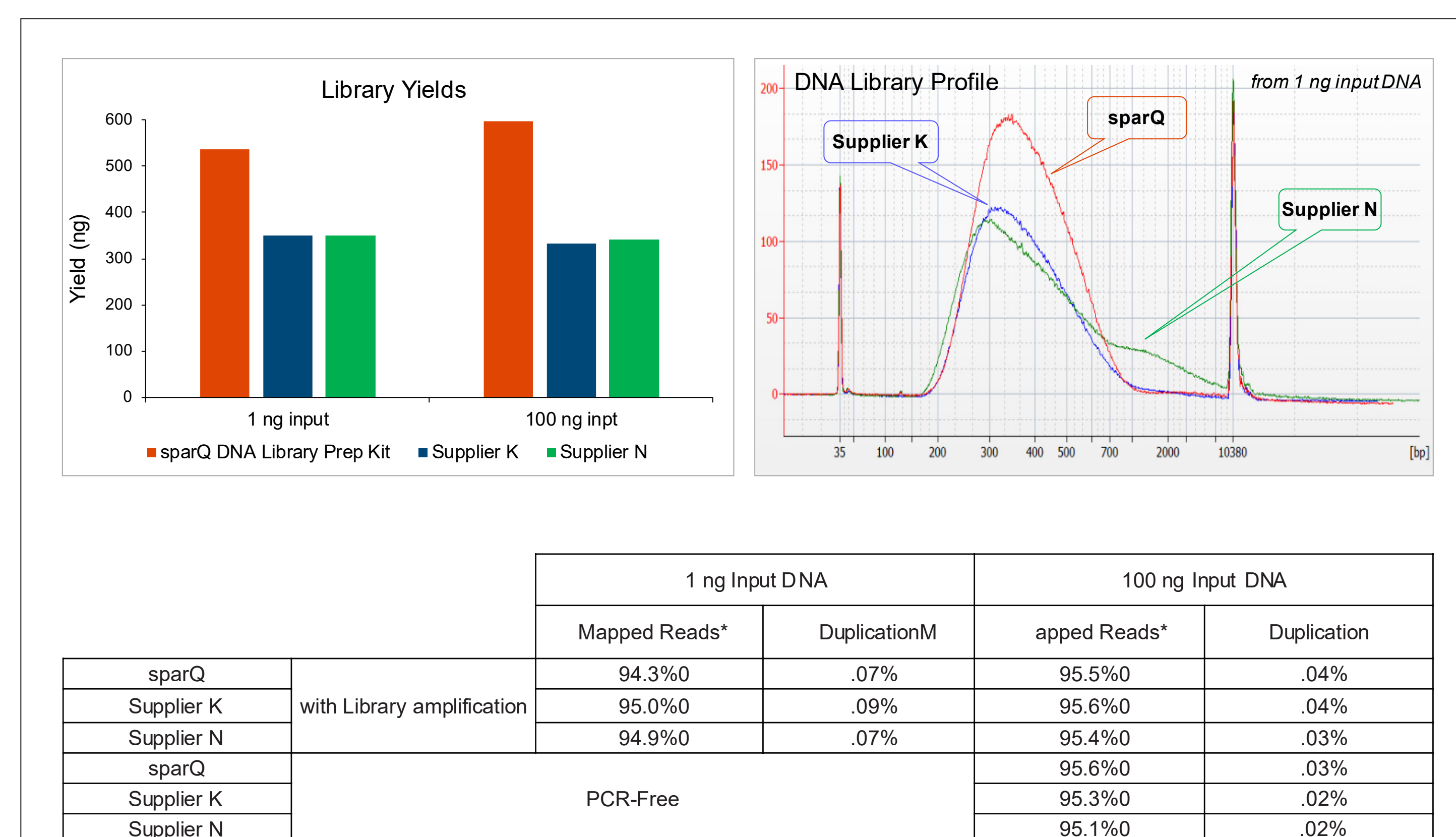
sparQ PureMag Beads

- A simple and reliable nucleic acid purification system for reaction cleanup and size selection in NGS workflows

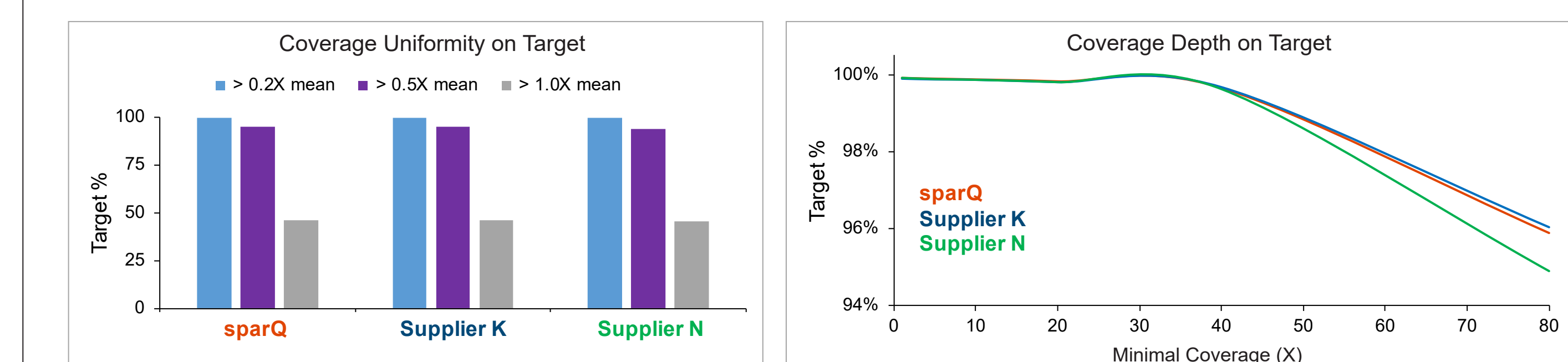
Library Prep Workflow



Yield & Quality Comparisons

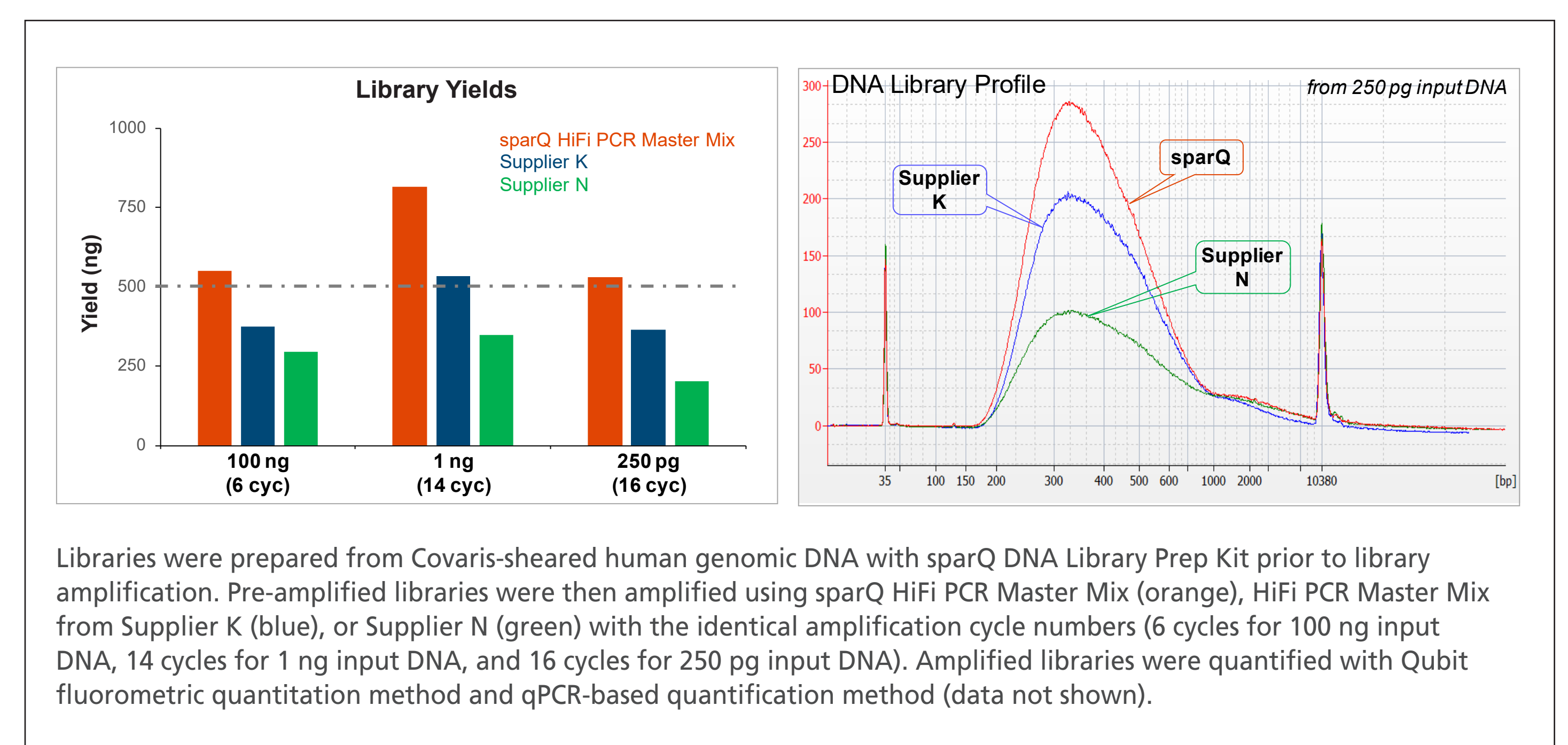


Target Enrichment Application with xGen® Acute Myeloid Leukemia Cancer Panel

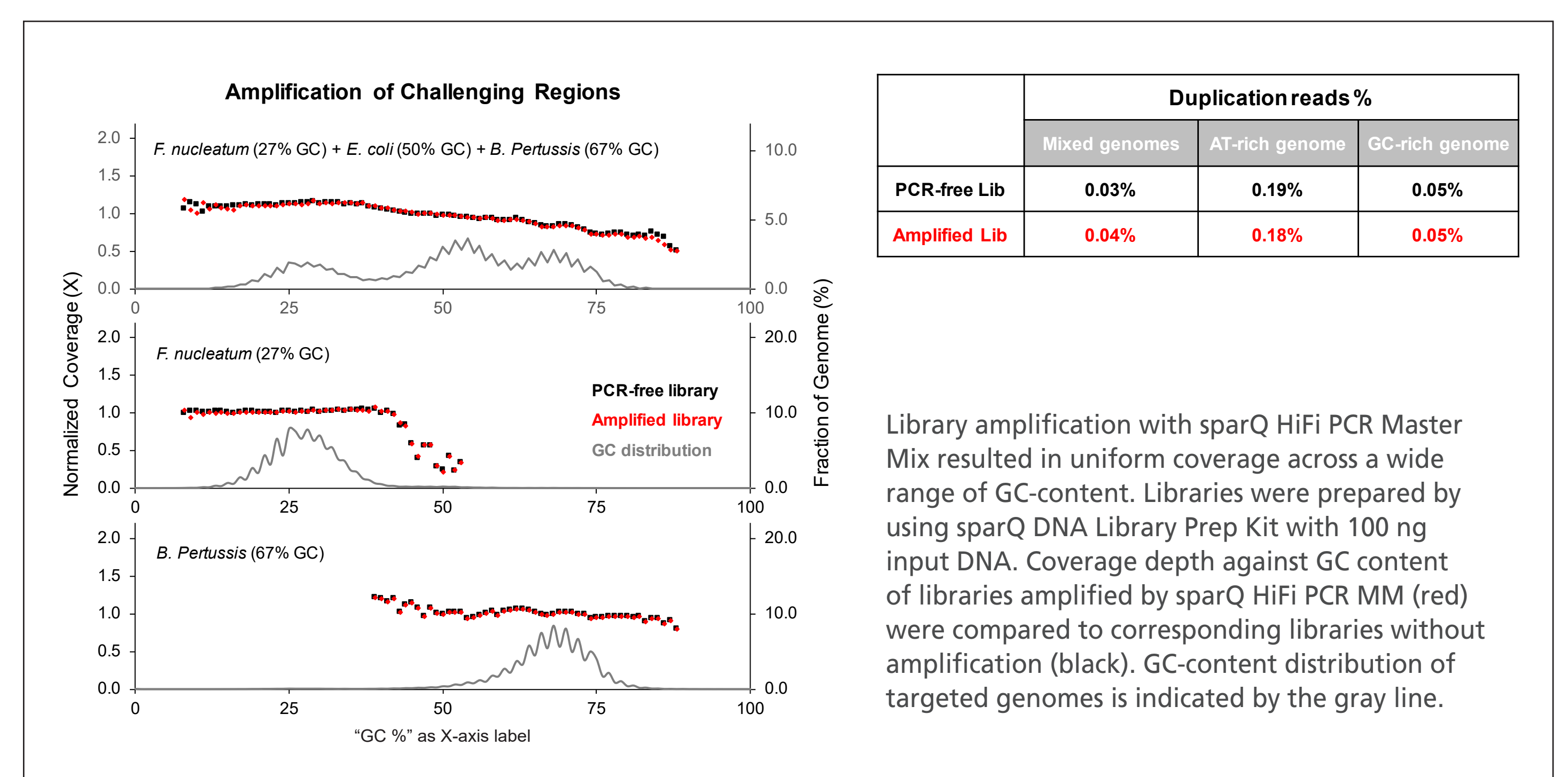


sparQ DNA Library Prep Kit offers significantly higher NGS library preparation efficiency and produces high quality DNA libraries. Libraries were prepared with Covaris-sheared bacterial genomic DNA mix (250 bp average size) and then amplified using 6 cycles for 100 ng input DNA or 13 cycles for 1 ng input DNA. DNA library profiles were analyzed using a high sensitivity DNA analysis kit on Agilent Bioanalyzer. Library quality was measured by alignment percentage and duplication rate post sequencing. High quality DNA Libraries prepared using sparQ DNA Library Prep Kit with Covaris-sheared human Coriell DNA NA12878 (300 bp average size) ensures superb performance of a downstream targeted sequencing application.

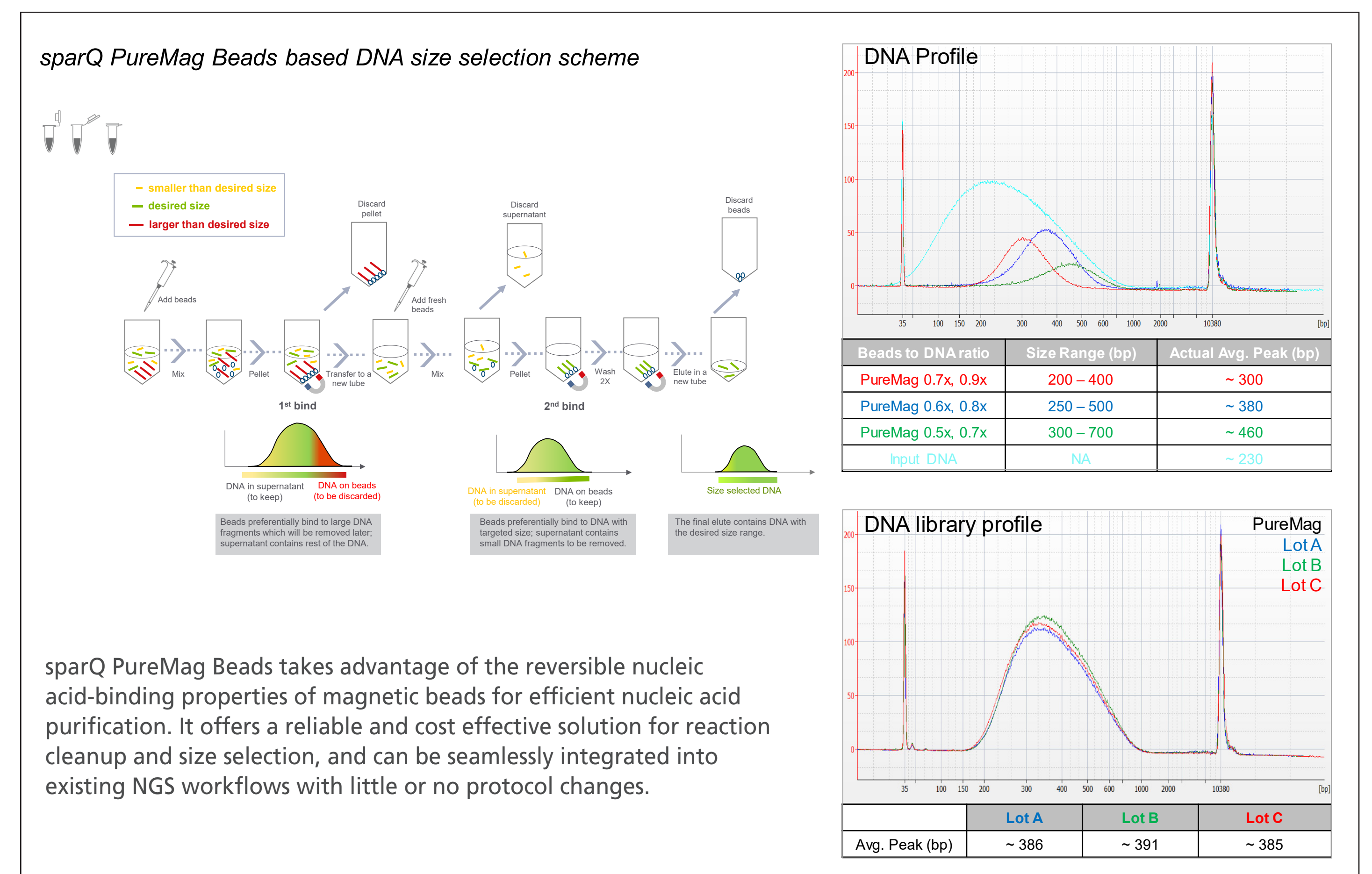
Superior Sensitivity & Efficiency



Uniform Coverage Across Challenging Genomic Regions



Consistent & Adjustable Size Selection



Conclusions

sparQ DNA Library Prep Kit

- 2-step protocol generates sequencing ready library in 2.5 hours
- 250 pg – 1 µg of input DNA produces unbiased libraries
- High library yields from enzymes engineered for optimal sensitivity and efficiency
- Capable of PCR-free library prep workflow
- Simple and cost effective solution to streamline library prep (e.g., whole genome sequencing, targeted sequencing, ChIP-seq, cfDNA, etc.)

sparQ HiFi PCR Master Mix

- Increased amplification efficiency results in higher yields for NGS library amplification
- Unbiased amplification provides improved coverage across AT- and GC-rich regions

sparQ PureMag Beads

- Fast, reliable DNA purification and size selection in NGS workflows