sparQ HiFi PCR Master Mix

High-fidelity library amplification while maintaining even coverage

FEATURES & BENEFITS:

- HiFi DNA polymerase engineered to minimize amplification bias
- Increased amplification efficiency resulting in higher yields
- Uniform coverage across challenging AT- and GC-rich regions
- Robust amplification from input DNA as low as 250 pg

DESCRIPTION:

The sparQ HiFi PCR Master Mix is a high-fidelity, high-efficiency PCR master mix for NGS workflows requiring DNA library amplification prior to sequencing. The included primer mix allows amplification of DNA libraries flanked by adapters containing the P5 and P7 sequences required for Illumina® sequencing platforms. The hot-start, proofreading DNA polymerase used in the sparQ HiFi PCR Master Mix is specifically engineered to improve library amplification efficiency while reducing PCR-derived artifacts, resulting in higher library yields and better coverage uniformity. This kit supports low DNA input from 250 pg and efficient amplification of AT- and GC-rich regions with minimal bias.

Higher library amplification efficiency

Specially designed for sensitive, high efficiency library amplification from a broad range of DNA input, the sparQ HiFi PCR Master Mix minimizes the number of amplification cycles needed to achieve the threshold required for sequencing. The result is >45% higher library yields while reducing PCR-derived artifacts.

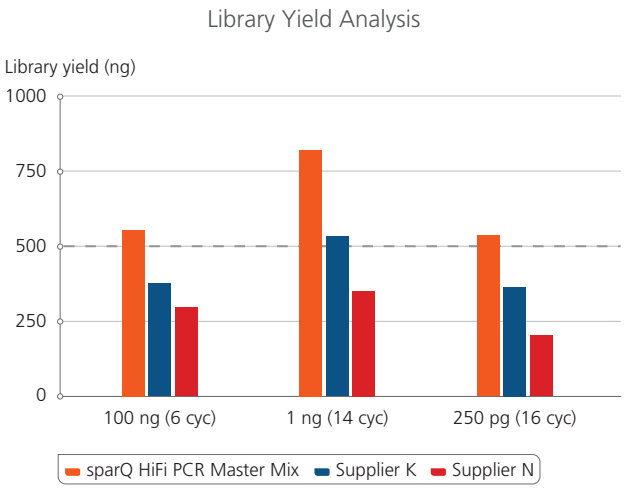

Figure 1 **Library amplification with sparQ HiFi PCR Master Mix resulted in higher yields.** Libraries were prepared from Covaris-sheared human genomic DNA with sparQ DNA library prep kit prior to library amplification. Pre-amplified libraries were then amplified using sparQ HiFi PCR Master Mix (orange) or equivalent kit from Supplier K (blue) and Supplier N (red) with identical PCR cycle numbers (6 cycles for 100 ng input DNA, 14 cycles for 1 ng input DNA, and 16 cycles for 250 pg input DNA). Amplified libraries were quantified with Qubit fluorometric method and qPCR-based quantification method (data not shown).

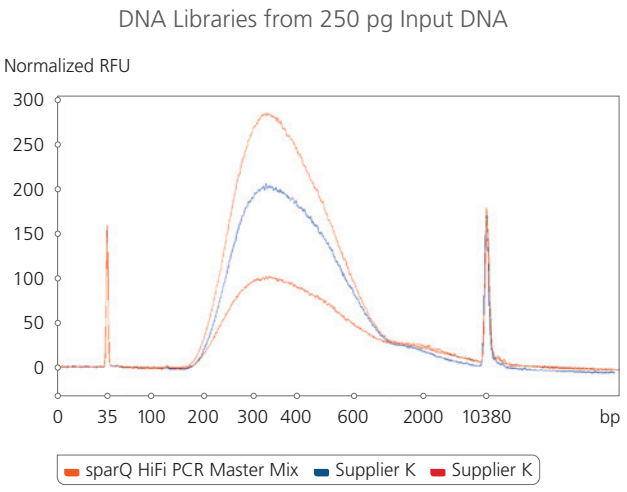

Figure 2 **sparQ HiFi PCR Master Mix demonstrates high efficiency library amplification from low input.** The fragment size distribution and the quality of the amplified DNA libraries from 250 pg input DNA were analyzed using a high sensitivity DNA analysis kit on the Agilent BioAnalyzer. Libraries were amplified using sparQ HiFi PCR Master Mix (orange) or equivalent kit from Supplier K (blue) and Supplier N (red) with identical amplification cycle numbers (16 cycles for 250 pg input DNA).

Superior coverage uniformity

Libraries amplified by sparQ HiFi PCR Master Mix provide uniform coverage across a broad range of GC-content, similar to corresponding libraries without PCR. Even coverage ensures greater sequencing depth or multiplexing capabilities.

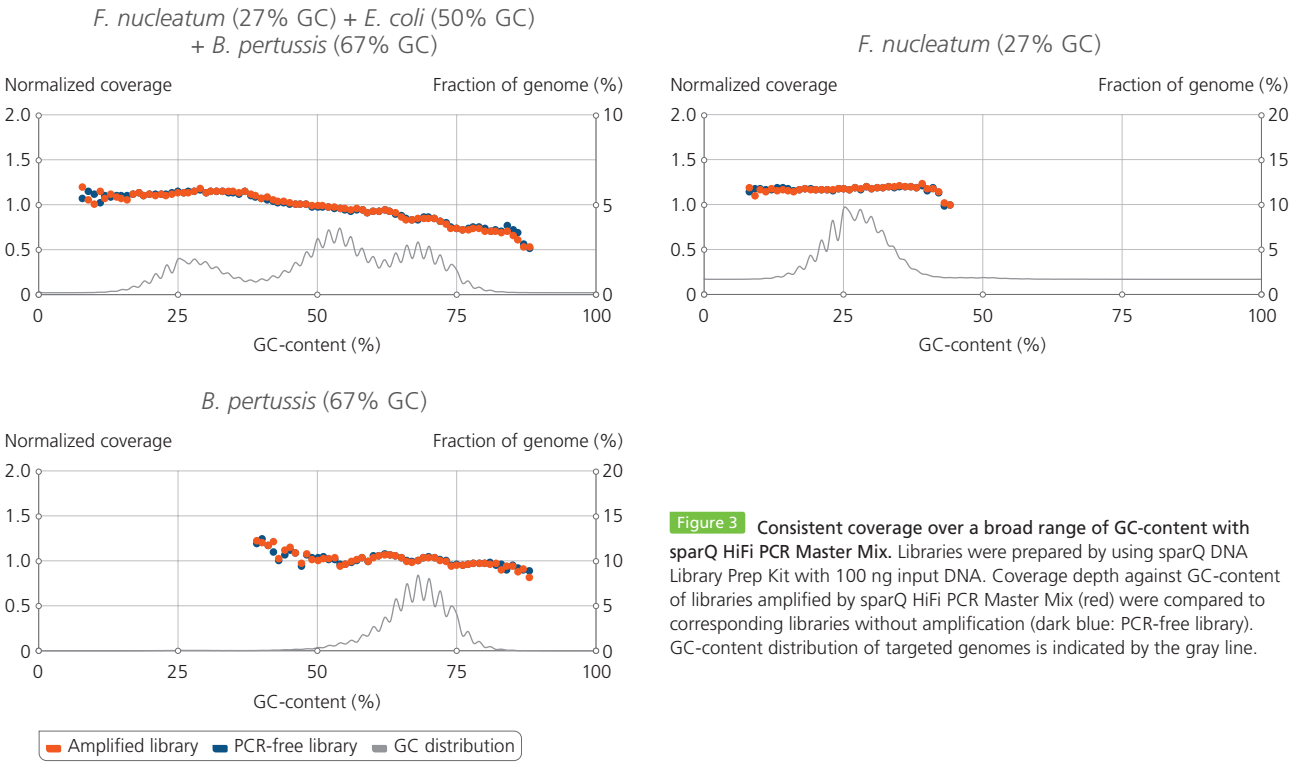

Figure 3 **Consistent coverage over a broad range of GC-content with sparQ HiFi PCR Master Mix.** Libraries were prepared by using sparQ DNA Library Prep Kit with 100 ng input DNA. Coverage depth against GC-content of libraries amplified by sparQ HiFi PCR Master Mix (red) were compared to corresponding libraries without amplification (dark blue: PCR-free library). GC-content distribution of targeted genomes is indicated by the gray line.

ORDER INFO

Product Name	Quantabio Catalog Number	Size
sparQ HiFi PCR Master Mix - 50 R	95192-050	50 rxns (1 x 1.25 ml)
sparQ HiFi PCR Master Mix - 250 R	95192-250	250 rxns (5 x 1.25 ml)
Related Products		
sparQ DNA Frag & Library Prep Kit - 24 R	95194-024	24 rxns
sparQ DNA Frag & Library Prep Kit - 96 R	95194-096	96 rxns
sparQ DNA Library Prep Kit - 24 R	95191-024	24 rxns
sparQ DNA Library Prep Kit - 96 R	95191-096	96 rxns
sparQ PureMag Beads - 5 ml	95196-005	5 ml
sparQ PureMag Beads - 60 ml	95196-060	60 ml
sparQ PureMag Beads - 450 ml	95196-450	450 ml
sparQ Universal Library Quant Kit - 100 R	95210-100	100 rxns
sparQ Universal Library Quant Kit - 500 R	95210-500	500 rxns

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