

sparQ HiFi PCR Master Mix

Increasing efficiency and yield while lowering bias

FEATURES & BENEFITS:

- Increased amplification efficiency results in higher yields for NGS library amplification even from low input DNA
- Unbiased amplification of DNA fragments provides improved coverage across AT- and GC-rich regions
- Improved overall sequencing economics

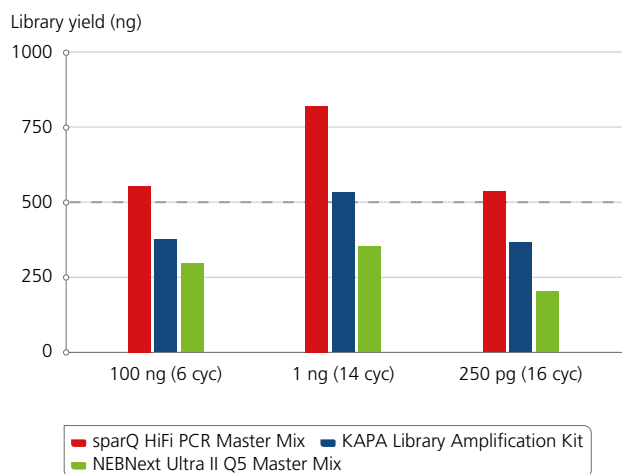
DESCRIPTION:

A high efficiency, high-fidelity, and low bias PCR master mix for NGS workflows requiring DNA library amplification prior to sequencing. The kit includes a primer mix allowing amplification of DNA libraries flanked by adapters containing the P5 and P7 Illumina® flow cell sequences.

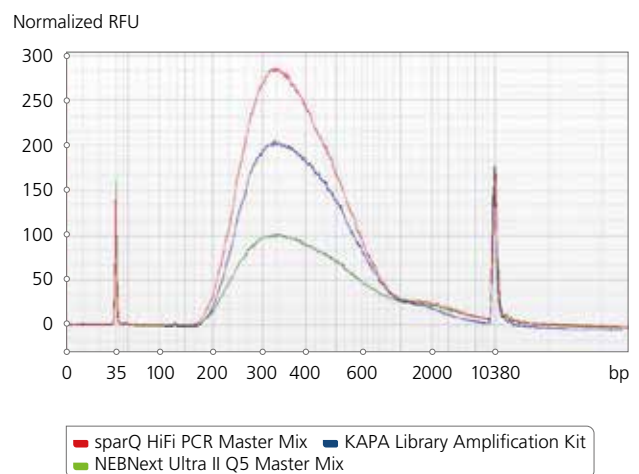
Higher NGS library amplification efficiency

sparQ HiFi PCR Master Mix was specially designed for high efficiency library amplification from low DNA input. The master mix minimizes the number of amplification cycles needed to achieve the threshold required for sequencing. The result is a superior performing high fidelity master mix that increases library yield which reduces PCR-derived artifacts for a variety of sequencing applications

Library Yield Analysis



DNA Libraries from 250 pg input DNA

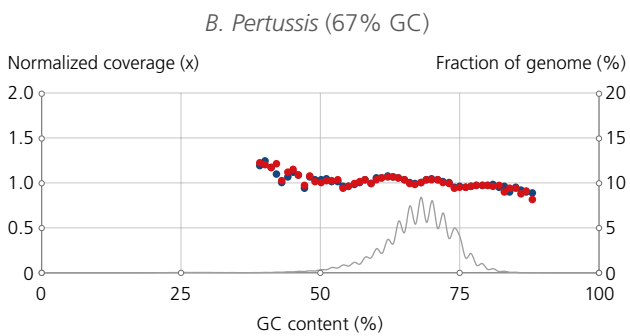
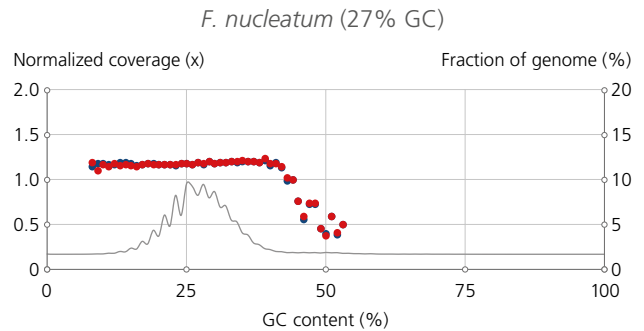
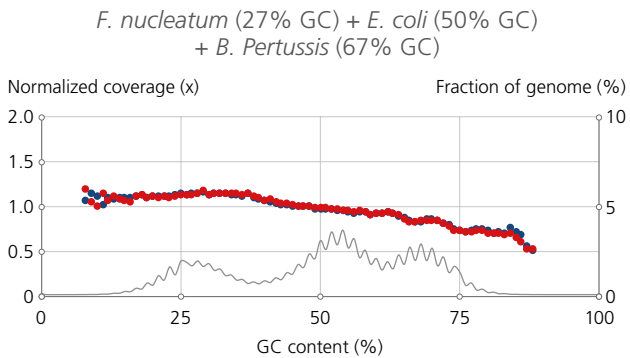


1.1 Libraries were prepared from Covaris-sheared DNA with sparQ DNA library prep kit prior to library amplification. Pre-amplified libraries were then amplified using sparQ HiFi PCR Master Mix (red), KAPA Library Amplification kit (blue), or NEBNext® Ultra™ II Q5® Master Mix (green) with the identical amplification 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 quantitation method and qPCR-based quantification method (data not shown).

1.2 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 a Bioanalyzer. Libraries were amplified using sparQ HiFi PCR Master Mix (red), KAPA Library Amplification kit (blue), or NEBNext Ultra II Q5 Master Mix (green) with identical amplification cycle numbers (16 cycles for 250 pg input DNA).

Create amplified libraries with unbiased results

Comparison of library preparation performed with sparQ HiFi PCR Master Mix matches PCR-free workflows. Lower bias enables better coverage uniformity resulting in greater sequencing depth or multiplexing capabilities. Outcomes optimize your sequencing results and economics.



■ Amplified library
 ■ PCR-free library
 — GC distribution

1.3 Library amplification with sparQ HiFi PCR Master Mix resulted in uniform coverage across the wide range of GC-content. 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 gray line.

ORDER INFO

Product Name

sparQ HiFi PCR Master Mix - 50 R
sparQ HiFi PCR Master Mix - 250 R

Quantabio Catalog Number

95192-050
95192-250

Size

50 rxns (1 x 1.25 ml)
250 rxns (5 x 1.25 ml)