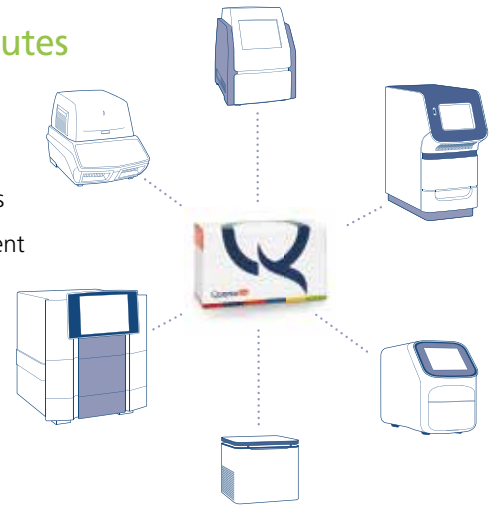


sparQ Universal Library Quant Kit

Fastest qPCR-based library quantification in 40 minutes

FEATURES & BENEFITS:

- Faster time to results – 50% shorter run time than traditional cycling protocols
- Accurate, reliable quantification of NGS libraries of various sizes and GC-content
- High amplification efficiency across a wide linear dynamic range
- Stabilized, ready-to-use sparQ Universal Fast Mastermix to reduce pipetting steps
- Superior run-to-run uniformity ensuring highly precise measurements



DESCRIPTION:

sparQ Universal Library Quant Kit provides rapid and accurate quantification of libraries prepared for sequencing on Illumina® NGS platforms. Accurate quantification of the number of amplifiable library molecules prior to loading onto a flow cell is a critical step in the NGS workflow and it ensures optimal cluster generation and cost-effective use of sequencing capacity. The sparQ Universal Library Quant Kit uses real-time quantitative PCR (qPCR) to specifically quantify the number of library molecules that possess the appropriate adapter tag at each end.

Accurate library quantification in 40 minutes

This kit is optimized for use on any qPCR instrument whether or not the ROX™ reference dye is required. The sparQ Universal Library Quant Kit employs a proprietary, fast taq-based mastermix that enables fast cycling, reducing qPCR run time by 50% compared to traditional cycling protocols.

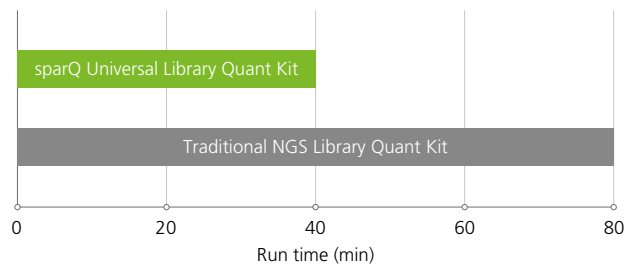


Figure 1 Comparison of average qPCR run time for library quantification. sparQ Universal Library Quant Kit uses a fast cycling protocol, allowing results to be achieved in 40 minutes versus 80 minutes with traditional NGS Library Quant Kit

Complete library quantification solution with unmatched convenience

sparQ Universal Library Quant Kit contains six stabilized, pre-diluted DNA standards, ready-to-use 1.25x mastermix pre-mixed with primer sets containing Illumina P5 and P7 sequences and an optimized buffer for diluting NGS library samples. The mastermix is ready-to-use for qPCR instruments with no and low ROX requirements. A tube of ROX is included in the kit for qPCR instruments requiring higher concentrations of the reference dye. This unique formulation minimizes pipetting steps and ensures precise qPCR results.

sparQ Universal Library Quant Kit Workflow

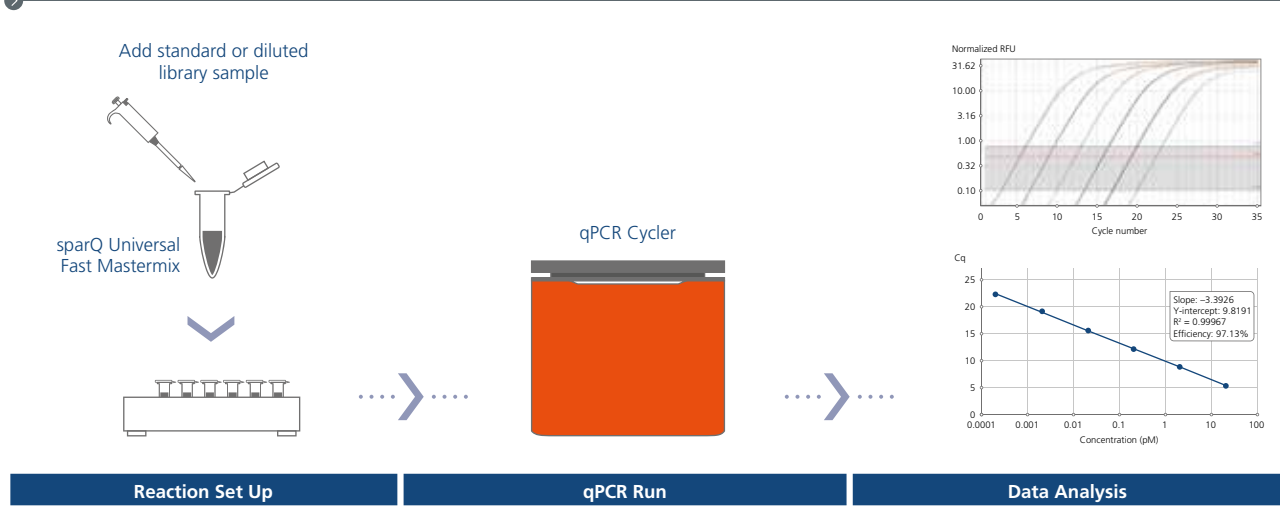


Figure 2 Illustration of sparQ Universal Library Quant Kit workflow. Reactions are prepared by simply adding standard or diluted library sample. Optimized protocols with fast cycling condition are provided for both 10 μ l or 20 μ l reaction volumes.

High amplification efficiency across a wide linear dynamic range

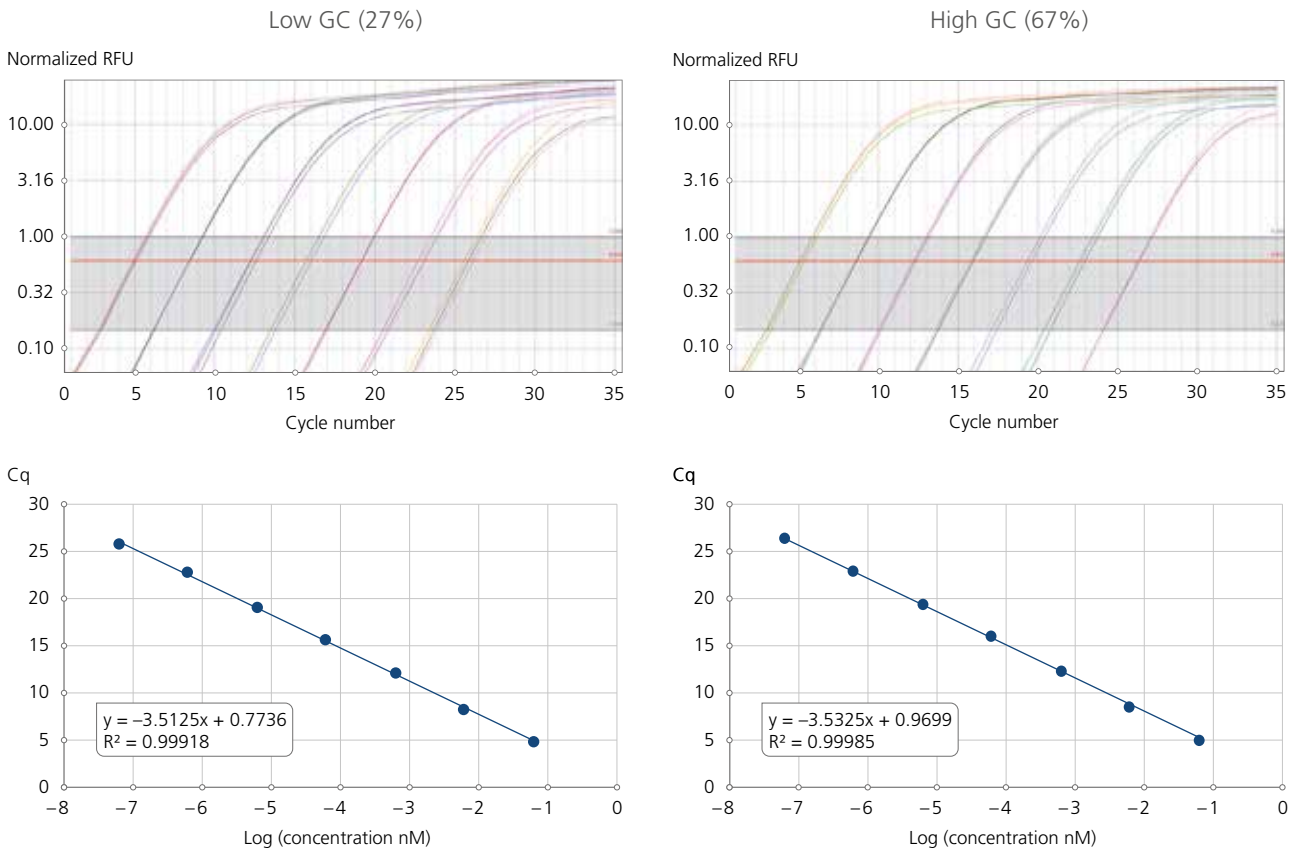


Figure 3 sparQ Universal Library Quant Kit provides high amplification efficiency across a wide linear dynamic range. A 10-fold dilution series was prepared from libraries of low (27%) and high (67%) GC-content and amplified under fast conditions on the Quantabio Q qPCR cycler using the sparQ Universal Fast Mastermix. The slopes of the Cq vs Log (concentration) plots and the individual sample reactions measured by the LinRegPCR algorithm indicated superb amplification efficiencies.

Equivalent performance across cyclers: sparQ vs Kapa Library Quantification Kit

sparQ Universal Quant kits provides concordant library quantification calls when compared with Kapa Library Quantification Kit across a range of different qPCR cyclers as well as types of nucleic acids. sparQ also provides library quantification calls in 40 minutes vs 80 minutes with Kapa.

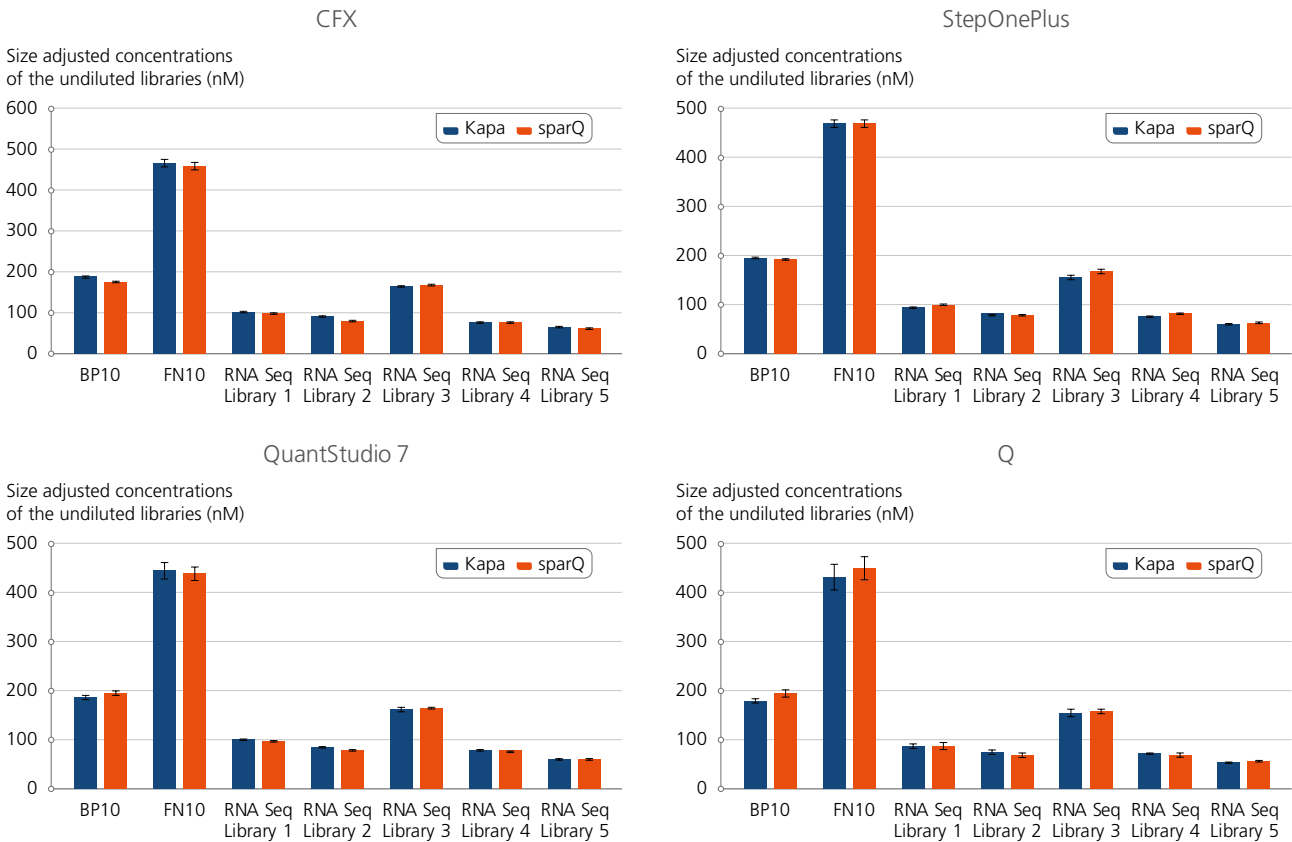


Figure 4 Seven Libraries (2 DNA, 5 RNA) were prepared and each quantified using both sparQ Universal Library Quant Kit and Kapa™ Library Quantification Kit according to each manufacturer's cycling protocol. Both kits produced library quantification results that were concordant to one another across a range of real time qPCR cyclers (BioRad® CFX, Applied Biosystems StepOne Plus™, Applied Biosystems QuantStudio™ 7 and Quantabio Q).

Equivalent performance with 50% faster run time

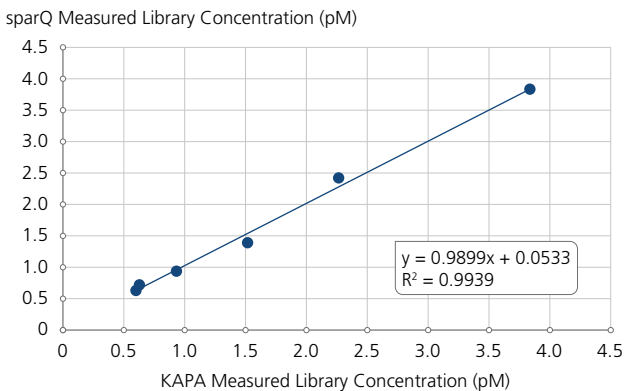


Figure 5 Results from sparQ and Roche KAPA Library Quantification Kits were highly correlated. Concentrations of six different diluted libraries were determined using either the sparQ Universal Library Quant Kit on Q or the Roche KAPA Library Quantification Kit on Bio-Rad CFX following the manufacturer's recommended protocol. Run times, including melt curves, were 40 minutes for sparQ and 80 minutes for KAPA.

Lot-to-lot consistency of sparQ DNA Standards

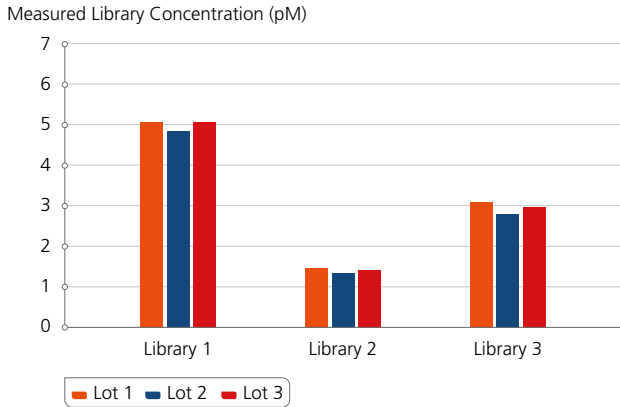


Figure 6 sparQ Universal Library Quant Kits are manufactured with high lot to-lot consistency. Concentrations of diluted libraries with low GC (library 1), high GC (library 2), or balanced GC-content (library 3) were determined using 3 different lots of sparQ DNA Standards. Each library sample was tested in quadruplicate reactions with each lot of sparQ DNA Standards. Standard deviations of average quantification values were all <0.13 pM.

ORDER INFO

Product Name

sparQ Universal Library Quant Kit - 100
 sparQ Universal Library Quant Kit - 500

Quantabio Catalog Number

95210-100
 95210-500

Size*

100 rxns
 500 rxns

* Based on 20 µl reaction volume.

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MK-SF-0037 REV 01 sparQ Universal Library Quant 1020