

GeneRead Library Quant System

For qPCR-enabled quantification of NGS libraries

The GeneRead Library Quant System provides a simple, out-of-the-box solution to quantify NGS libraries, enabling consistent results with every NGS run. The GeneRead Library Quant System uses real-time PCR to specifically quantify DNA molecules with sequencing adaptors at both ends, ensuring optimal cluster density or template-to-bead ratio.

The GeneRead Library Quant System provides:

- Sequentially diluted DNA standard, predisposed for the array format
- Automatic calculation of library concentration
- Simple protocol, high sensitivity, and wide dynamic range
- Compatibility with Illumina® and Ion Torrent™/Proton™ platforms
- Compatibility with most qPCR instruments

qPCR-based library quantification

Accurate quantification of amplifiable library molecules is essential for the efficient use of NGS platforms; however, conventional spectrophotometric methods measure total nucleic acid concentrations. The GeneRead Library Quant System uses highly sensitive real-time PCR to quantify only PCR-amplifiable DNA molecules. The system is available in both a PCR plate (array) and tube (kit) format. The GeneRead Library Quant System is optimized with GeneRead qPCR Mastermixes to provide superior sensitivity and a wide dynamic range.

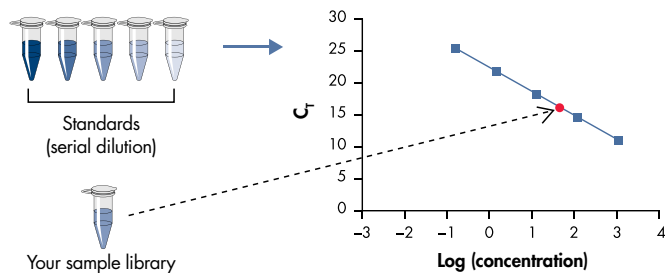


Figure 1. Principle of GeneRead Library Quant System. The serial dilutions of the DNA standard (5 sequential 10-fold dilutions) generate a standard curve. The sample library should fall within the standard curve.

GeneRead Library Quant Array Workflow

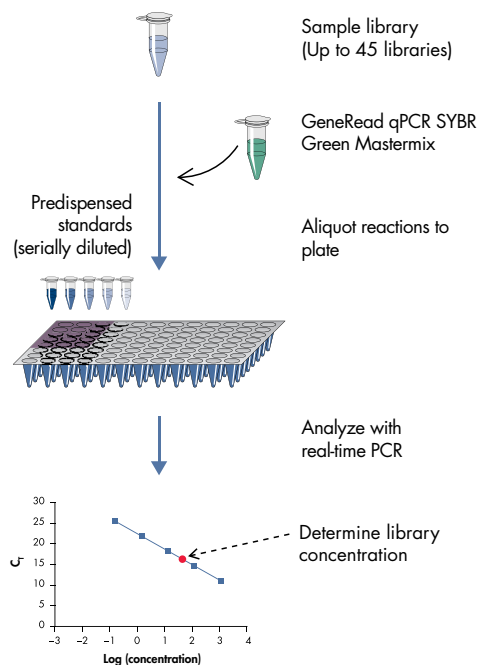


Figure 2. GeneRead Library Quant Array workflow. Each sample DNA library is combined with GeneRead qPCR SYBR Green Mastermix, aliquoted in technical triplicate across the GeneRead Library Quant PCR Array, and analyzed with qPCR. Simply copy and paste raw C_t values in the data analysis Excel® template, and the software will automatically calculate the library concentration or dilution factor.



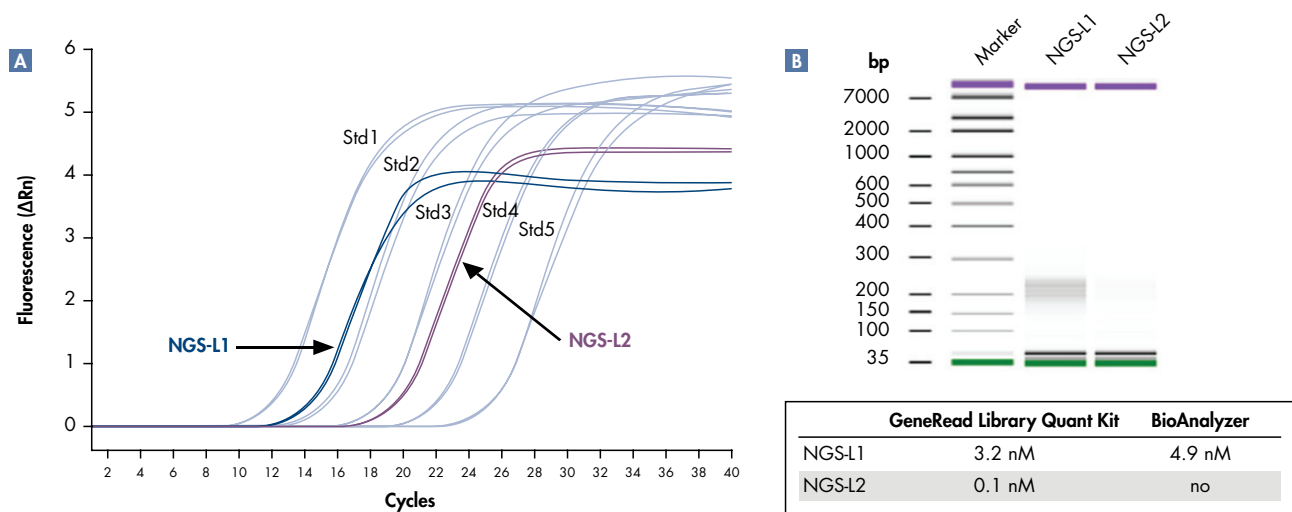


Figure 3. GeneRead Library Quant System enables quantification of libraries with concentrations below the detection limit of conventional methods. The GeneRead Library Quant Array's high sensitivity and broad dynamic range enables the quantification of both NGS-L1 and NGS-L2 libraries **A**. By contrast, Agilent's High Sensitivity DNA Kit (for use with the Agilent 2100 BioAnalyzer) quantified only the NGS-L1 library; with this kit, the NGS-L2 library concentration was too low for quantification **B**.

Ordering Information

Product*	Contents	Cat. no.
GeneRead Library Quant Array	Two arrays in formats A, C, D, F, or R, or 1 array in format E or G, for quantification of DNA library in all NGS applications	180611
GeneRead Library Quant Kit	Laboratory-verified forward and reverse primers for 500 x 25 µl reactions (500 µl); DNA Standard (100 µl); Dilution Buffer (30ml); (1.35 ml x 5) GeneRead qPCR SYBR Green Mastermix	180612
GeneRead qPCR SYBR Green Mastermix	Mastermix for use with GeneRead Library Quant Arrays	Varies

* GeneRead Library Quant Arrays and Kits are compatible with Illumina® and Ion Torrent™/Proton™ NGS platforms and most real-time PCR instruments.

For up-to-date licensing information and product-specific disclaimers, see the respective QIAGEN kit handbook or user manual. QIAGEN kit handbooks and user manuals are available at www.qiagen.com or can be requested from QIAGEN Technical Services or your local distributor.

Discover more, visit www.sabiosciences.com/NGS.php!

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