

BGI develops RNA-Seq (Quantification) from as low as 100 Ng total RNA

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Beijing Genomics Institute reported that they have achieved optimization RNA-Seq (Quantification) library construction with total RNA inputs as low as 100 ng. This breakthrough enables the application of RNA-Seq (Quantification) technology to experimental designs utilizing samples derived from small numbers of cells, such as those widely used in pharmaceutical research, cancer research, and immunology.

RNA-Seq (Quantification), a version of Next Generation Sequencing (NGS), is used for transcriptome quantification and analyzing the [gene expression](#) of certain biological objects in specific conditions. It can be widely applied in biomarker detection, basic medical research, drug discovery, among others. Compared with microarray technology, high-throughput RNA sequencing can provide comprehensive assessment of RNA expression profiles with the advantages of high-throughput data, low background, [high sensitivity](#) and repeatability.

However, some tissues or cultures from specialized cells involved in clinical and [pharmaceutical research](#) make it difficult to obtain sufficient RNA for RNA-Seq (Quantification), which previously required 1 µg or more total RNA. BGI has optimized the procedures to enable RNA-Seq (Quantification) using as little as 100 ng total RNA sample input to generate high-quality data. "The improvement of RNA-Seq (Quantification) not only can simplify sample preparation, but also make this sequencing service more cost-effective and with rapid turnaround time," said Jiong Zhang, Technical Specialist at BGI.

To ensure the accuracy and quality of data, many evaluations have been conducted at BGI, including the reads quality, assessments of reads randomness, gene coverage, experimental reproducibility, and data accuracy. Results demonstrated that the data generated from 100 ng sample input library was as high-quality as that from traditional 1 µg RNA input library. "I hope our enhanced technique can contribute more to [drug discovery](#) and therapeutic application in the future," added Zhang.

More information: www.bgisequence.com/

Provided by Beijing Genomics Institute

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