

MGIEasy rRNA & Globin Depletion V1.3

■ Introduction

MGIEasy rRNA & Globin Depletion Kit V1.3 can efficiently deplete rRNA and Globin mRNA from Human blood total RNA and keep other mRNA and non-coding RNA to increase the proportion of useful data. It depletes rRNA and Globin mRNA from human blood total RNA with an input of total RNA ranging from 10 ng–1 µg. The library prepared by using this kit with RNA Library Prep Kit (e.g. MGIEasy Fast RNA Library Prep Set) is suitable for transcriptome or non-coding RNA research applications.

■ Highlights

✔ Efficient elimination of rRNA and Globin mRNA

High efficiency on rRNA and hemoglobin mRNA depletion in human blood total RNA sample and keep other mRNA and non-coding RNA.

✔ Efficient automatable workflow

Adapt to MGISP-100 and MGISP-960.

✔ Flexible solutions

Compatible with various RNA sequencing library preparation kits.

Specification

Assay Time	~ 2 hours
Hands-On Time	~12 min
Input Quantity	10 ng – 1 µg total RNA
Sample types	Human blood total RNA
Applications	Whole-Transcriptome Sequencing, Long non-coding RNA Sequencing
Adaptation automation platform	MGISP-100 (16RXN), MGISP-960 (96RXN)
Removed rRNA types	cytoplasmic 5 S rRNA, 5.8 S rRNA, 18 S rRNA, 28 S rRNA, mitochondrial ribosomal RNA 12 S rRNA, 16 S rRNA and 45 S pre-ribosomal RNA
Removed human Globin mRNA types	HBA1/2, HBB, HBD, HBG1/2, HBM, HBE1, HBQ1, HBZ

Product performance

High efficiency on rRNA and hemoglobin mRNA depletion

Compare MGIEasy rRNA & Globin Depletion Kit V1.3 with MGIEasy rRNA Depletion Kit V1.3 by using human blood total RNA as a sample. The result showed that the MGIEasy RNA & Globin Depletion Kit V1.3 can efficiently deplete both rRNA and Globin mRNA simultaneously from human blood total RNA and has high rRNA & hemoglobin mRNA depletion efficiency, while keeping mRNA and non-coding RNA, ensuring rich gene detection.

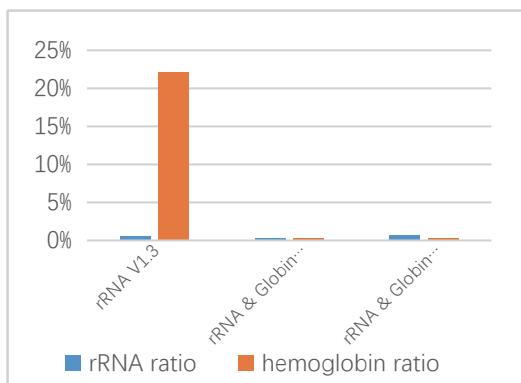


Fig.1a The rRNA and Globin mRNA residual ratio under different treatments

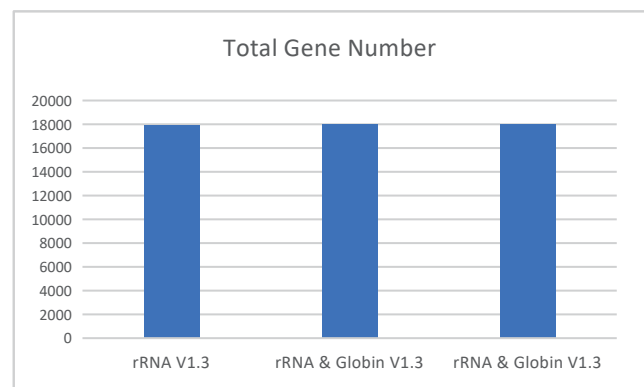


Fig.1b Detected genes under different treatments

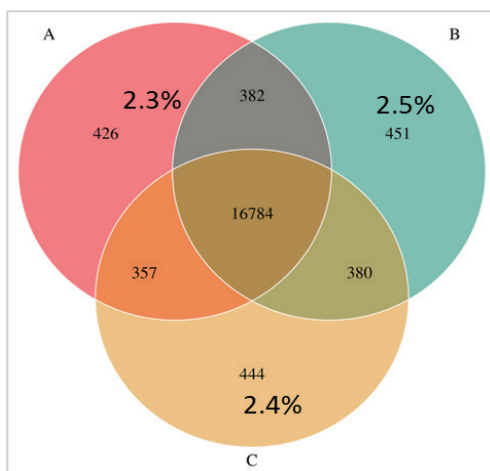


Fig.1c Detect genes consistency under different treatments. The detected genes of samples A, B, and C have high consistency, indicating that the hemoglobin mRNA depletion does not affect the keeping other mRNA.

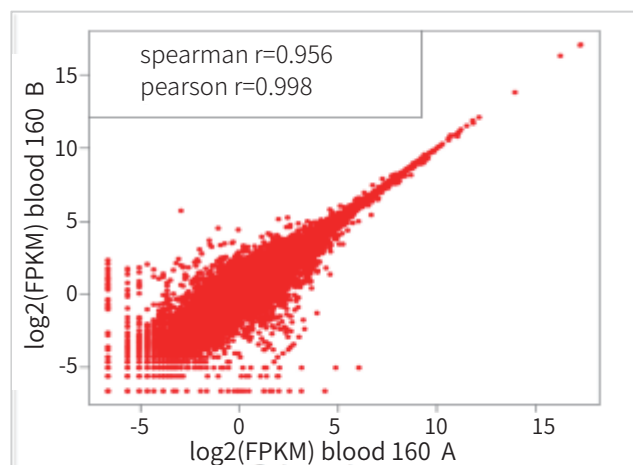


Fig.1d Gene expression correlation under different treatments

Fig.1 Human blood total RNA is divided into three samples (A/B/C, 200ng/sample). Libraries were prepared from sample A, B, and C. Sample A was treated using the MGIEasy rRNA Depletion Kit V1.3, Sample B and C were treated using the MGIEasy rRNA & Globin Depletion Kit V1.3. Then libraries were prepared from treated sample A, B, and C using the MGIEasy Fast RNA Library Prep Set (MGI, Cat. No. 940-000890-00, 940-000889-00, 940-000961-00), and sequenced on DNBSEQ-G50.

Compatible with 10 ng -1 μg total RNA

MGIEasy rRNA & Globin Depletion Kit V1.3 is compatible with a range of 10 ng -1 μg total RNA. The libraries prepared from MGIEasy rRNA & Globin Depletion Kit V1.3 exhibit excellent quality on sequencing data, rRNA and Globin mRNA depletion efficiency and gene detection, even the input total RNA be as low as 10 ng.

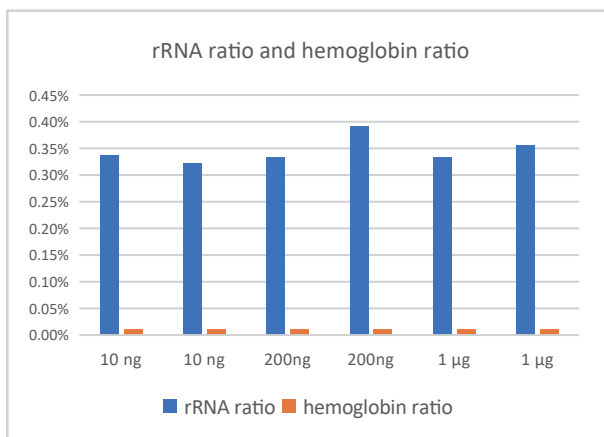


Fig.2a The rRNA and Globin mRNA residual ratio under different amount of total RNA

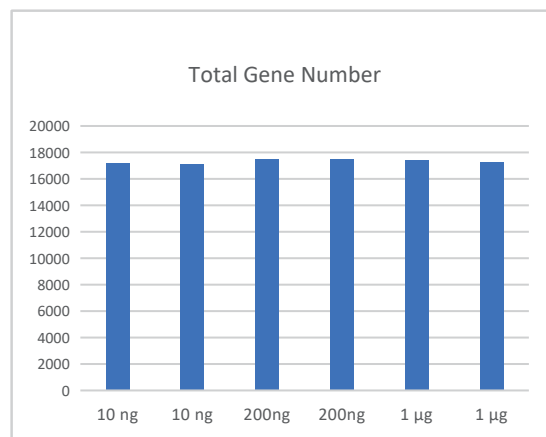


Fig.2b Detected genes under different input amounts of total RNA

Fig.2 Libraries were prepared from 1μg, 200ng, 10ng input human blood total RNA using the MGIEasy rRNA & Globin Depletion Kit V1.3 and the MGIEasy Fast RNA Library Prep Set (MGI, Cat. No. 940-000890-00, 940-000889-00, 940-000961-00), and sequenced on DNBSEQ-G400.

Stable performance on Automated Sample Preparation System

The MGIEasy rRNA & Globin Depletion Kit V1.3 is suitable for MGI High-throughput Automated Sample Preparation System. It has stable performance even in low input amount on Automated Sample Preparation System, with high rRNA and Globin mRNA depletion efficiency and rich gene detection.

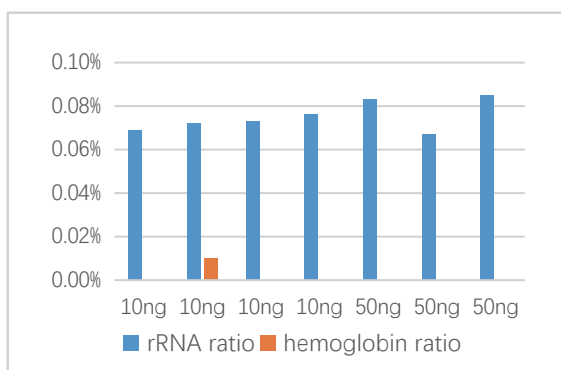


Fig.3a The rRNA and Globin mRNA residual ratio on MGISP-960

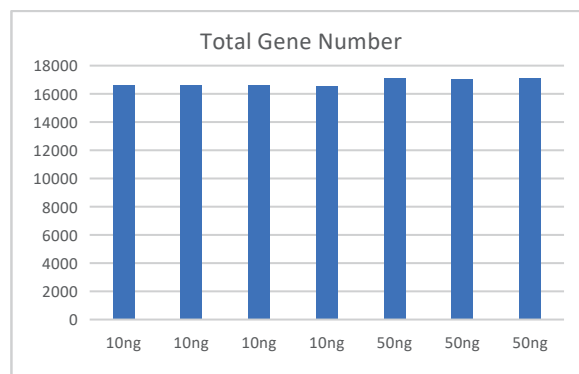


Fig.3b Detected genes on MGISP-960

Fig.3 Libraries were prepared from 10ng and 50ng input human blood total RNA using the MGIEasy rRNA & Globin Depletion Kit V1.3 and the MGIEasy Fast RNA Library Prep Set (MGI, Cat. No. 940-000890-00, 940-000889-00, 940-000961-00) on MGISP-960, and sequenced on DNBSEQ-G50.

Flexible Solutions

The MGIEasy rRNA & Globin Depletion Kit V1.3 is compatible with various RNA sequencing library preparation kits, such as MGIEasy Fast RNA Library Prep Set. The libraries prepared by using the MGIEasy rRNA & Globin Depletion Kit V1.3 and RNA Library preparation kits are suitable for RNA quantitation, transcriptome or non-coding RNA research applications.

■ Summary

MGIEasy rRNA & Globin Depletion Kit V1.3 provides an efficient solution for removing both rRNA and hemoglobin mRNA simultaneously from human blood total RNA samples, enabling efficient elimination of rRNA and hemoglobin mRNA, and keep other mRNA and non-coding RNA. MGIEasy rRNA & Globin Depletion Kit V1.3 provide flexible solutions compatible with various RNA library preparation kit.

■ Ordering Information

Product	Configuration	Cat No.
MGIEasy rRNA & Globin Depletion Kit V1.3	16 RXN	940-001761-00
	96 RXN	940-001760-00
MGIEasy Fast RNA Library Prep Set	16 RXN	940-000890-00
	96 RXN	940-000889-00
	192 RXN	940-000961-00

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