



Microbiome Metagenomics Sequencing Solution

The human body harbors diverse microbial communities across various anatomical sites, including the gastrointestinal tract and skin. These communities, collectively known as the human microbiome, play crucial roles in maintaining health and are implicated in various diseases such as cancer and gastrointestinal disorders. Through the study of the human microbiome, we gain deeper insights into the intricate relationship between microbes and human health.

MGI's Microbiome Metagenomics Sequencing Solution integrates MGI's advanced reagents kit, automation system, and DNBSEQ sequencing technology, providing a comprehensive solution from sample collection to sequencing. This cutting-edge platform enables large-scale parallel sequencing of the human intestinal microbiome, facilitating comprehensive analysis and understanding of microbial contributions to human health.

Features

- **Excellent performance validated by large number of real samples**

Validated over 13,000 stool samples in MMHP on DNBSEQ sequencer, showed excellent Intra-platform reproducibility (relative abundance Spearman's ρ : gene > 0.91, species > 0.97), and has High consistency with other brand platforms (Gene richness Spearman's ρ > 0.99)*.

- **One-stop, fast and automated workflow**

Integrated with MGISTP-7000, MGISP-NE384, MGISP-960, and MGISP-Smart8, enabling automated sample transfer, extraction, normalization, pooling and library preparation, resulting in labor savings.

- **Fully validated medium and high throughput metagenomics solutions based on DNBSEQ-T7 and DNBSEQ-G400 platforms**

Different throughput of automatic DNA/RNA extraction and genetic sequencing platforms make the microbiome application more flexible and efficient.

- **Cost effective**

Implementing a 2-fold library prep miniaturization on the MGISP-960 automation platform reduces library preparation costs.

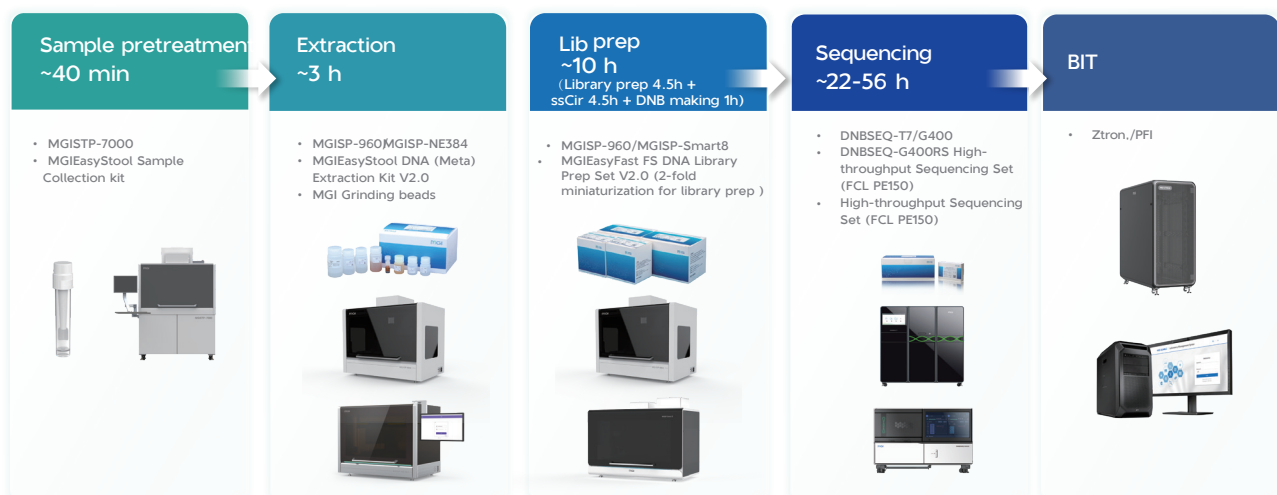


Figure1 Workflow

Table1 Specification

Intended use	Microbiome research
Sample type	Stool
Max throughput	DNBSEQ-T7:250K/year; 232 samples/FC
	DNBSEQ-G400: 20K/year; 64 samples/FC
Recommended data volume	6 Gb per sample
Compatible sequencer	DNBSEQ-T7/G400
Reads length	PE150

Empowered the MMHP**

The “Million Microbiome of Humans Project” (MMHP) is currently the largest international microbiome research initiative in the world. The project aims to map the human microbiome across different ethnicities, ages, genders, and health statuses based on MGI Microbiome Metagenomics Sequencing technology, and to establish the large-scale population baseline for microbiome research, thereby promote translational medical research in the field of the human microbiome.



Figure2 MMHP member organizations

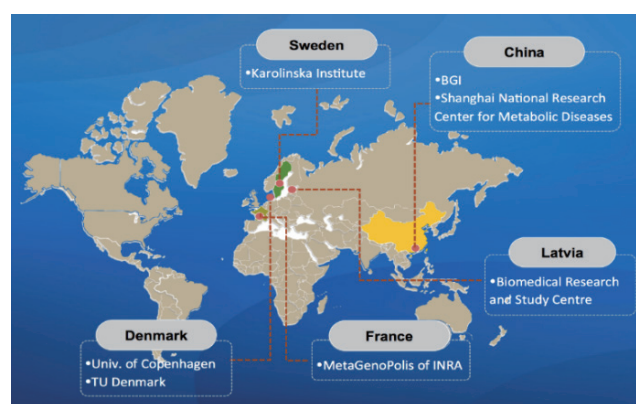


Figure3 Founding members of the project

Ordering information

Type	Name	PN
Sample pretreatment	MGEasy Stool Sample Collection kit (15ml)	/
	MGISTP-7000	900-000336-00
Extraction	MGISP-960 config 9	900-000154-00
	MGEasy Stool DNA (Meta) Extraction Kit V2.0	940-001247-00/940-001246-00
	MGI Grinding beads	940-000136-00
Library prep	MGISP-960 config 7	900-000147-00
	MGEasy Fast FS DNA Library Prep Set V2.0	940-001194-00/940-001196-00
	MGISP-Smart 8 config 4	900-000503-00
Sequencing	Genetic Sequencer DNBSEQ-G400RS	900-000170-00
	DNBSEQ-G400RS High-throughput Sequencing Set (FCL PE150)	/
	DNBSEQ-T7RS Genetic Sequencer	900-000242-00
	DNBSEQ-T7RS High-throughput Sequencing Set (FCL PE150)	/

*The data published at Almeida, M. et al. 2022. Nature Scientific Data.

** <https://db.cngb.org/mmhp/project>

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