


MGI Low Throughput Automated Solution

Microbial Detection Sample Preparation

Introduction

MGIEasy FS DNA Library Prep Set can easily and efficiently prepared whole genome NGS libraries from most sample types without additional fragmentation instruments, especially for the microbial samples difficult to be enriched with DNA input as low as 0.5 ng.



The image shows the MGISP-100 Automated Sample Preparation System, a white, boxy laboratory instrument with a black front panel and a small MGI logo at the bottom right. It is surrounded by four feature boxes and a central title.

Comprehensive functions Integrated design comprising functional modules including PCR preset protocols, temperature control, etc. covering the whole testing process.	Cost effectivity Short time to set up the library, batched sample processing, suitable for small to medium laboratories.
Professional and minimal contamination Including a laminar flow hood which eliminates external contaminants to maximize accurate results.	Flexible platform Allows customized workflow development; high expandability.

Automated Sample Preparation System
—Designed for Next Generation Sequencing Applications

MGISP-100 automated sample preparation system is an automated workstation dedicated to next generation sequencing. It adopts automated design to deal with samples in batches. MGISP-100 can save a great deal of effort, improve the stability of NGS library preparation and reduce the costs involved, comprehensively improving the laboratory efficiency. So far, it has been running stably in the sample preparation process of MGI sequencer.

The throughput on MGISP-100 for the [MGIEasy FS DNA Library Prep Set] can be set to up to 16 rxn/run. The library preparation is mainly for gDNA from all common fungi and bacteria. The processes available on the MGISP-100 include Fragmentation, End Repair, Adaptor Ligation, PCR Amplification, Purification, Pooling, DNB making and more, achieving the effect of the automation of library preparation.

Solution features

Sample type: gDNA from fungi and bacteria [0.5-100ng], gDNA from Meta

sample [5-100ng]

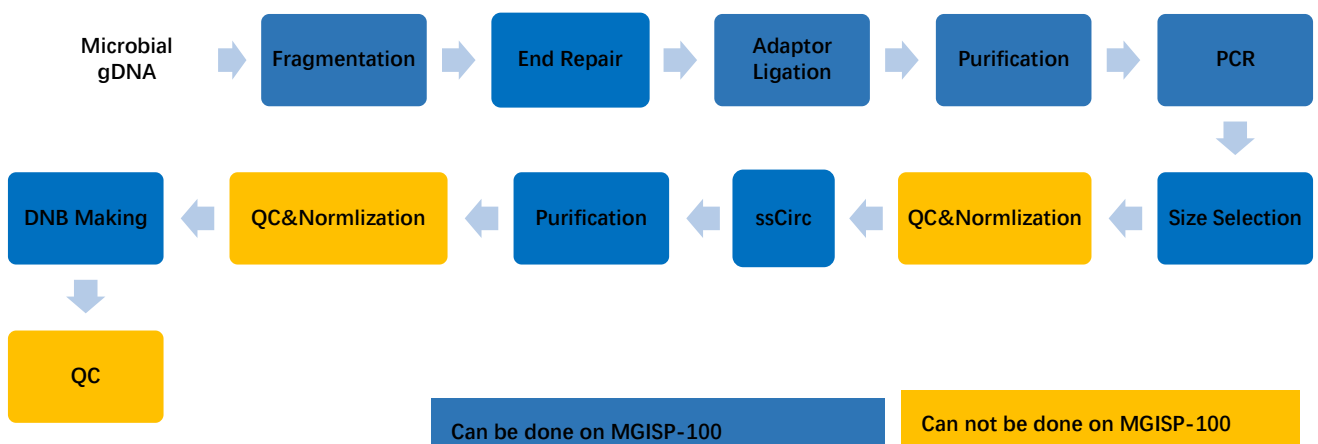
Throughput / run: 16 samples

Products: a tube of DNB, can be sequenced directly.

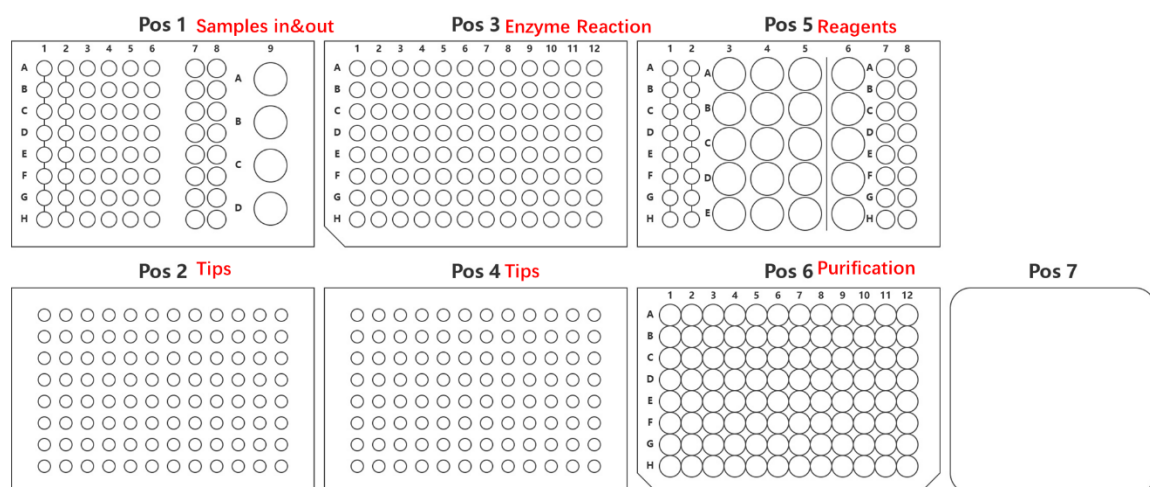
Run time: 45 minutes of manual operation, 7.6 hours of automatic operation

Microbial Detection Sample Preparation Automated Solution

Workflow on MGISP-100



MGISP-100 Deck Layout



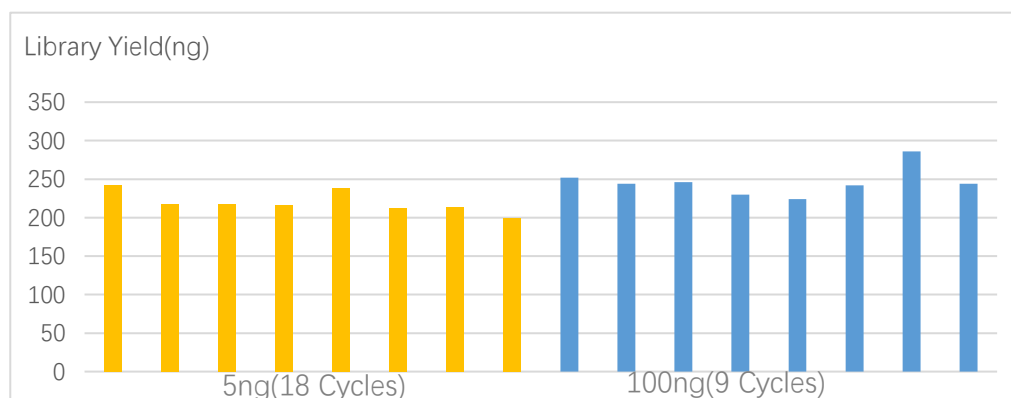
Three steps on MGISP-100 for WGS sample preparation

MGISP-100 Running Time	gDNA → PCR: ≤5h
	PCR → ssCirc: ≤2h
	ssCirc. → DNB: ≤40 minutes
Throughput per Run	16 samples
Application	Microbial Detection
Matching Kit	[MGIEasy FS DNA Library Prep Set]

MGISP-100 Data Performance

Consistent and Reproducible Library Yields

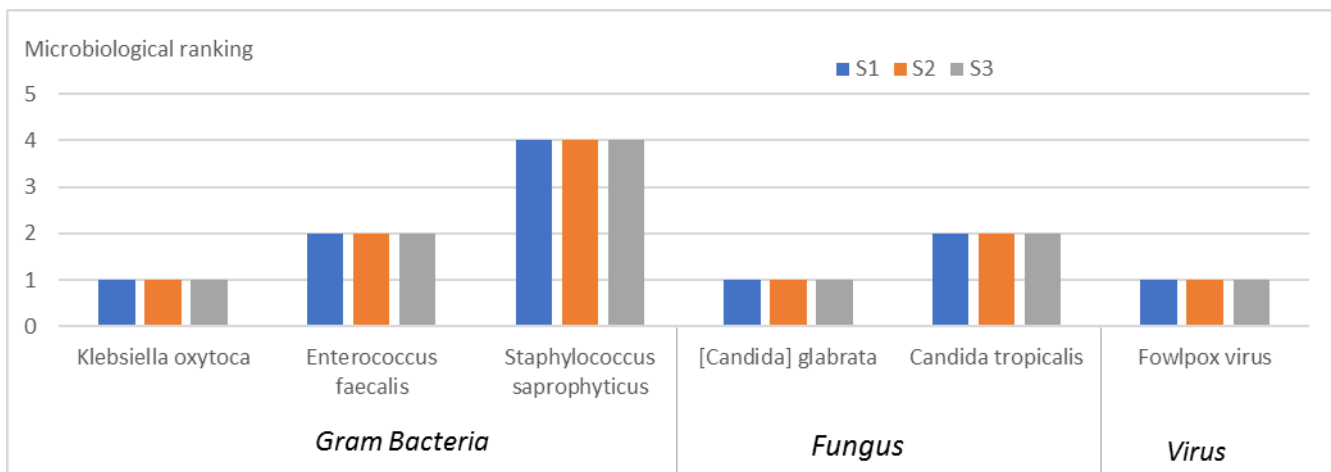
Taking 5ng *mycobacterium tuberculosis* as template, the library output can reach stably more than 200ng, and CV value is within 8%. It shows that MGISP-100 can produce stable PCR library with different inputs of microbial gDNA samples.



Accurate and Reproducible Microbial Identification

Accuracy and reproducibility of NGS libraries prepared on the MGISP-100 was tested by spiking 6 different microbial cultures into a negative blood sample in

triplicate. Libraries were sequenced, analyzed and determined to accurately identify bacterial species in each sample.



*These data are from MGI sequencer.

MGISP-100 Ordering Information

Model	Market Expectation	Item NO.
MGISP-100RS	China RUO	900-000070-00
MGISP-100RS	Abroad RUO	900-000051-00

Consumables Ordering Information

Product Name	Brand	Specification	Unit	Item NO.
0.5ml SC Micro Tube PCR-PT	MGI	100 ea./bag	bag	1000001558
Break-Away 96-Wells, clear tubes, purple frame	MGI	10 pieces/box	box	1000004341
Strips of 8 flat optical caps	MGI	12 ea./bag	bag	1000002039
Microseal 'P' Replacement Pads	MGI	10 pieces/bag	bag	1000001526
250ul Automated Filter Tips	MGI	10 boxes/case	case	1000000723
1.3ml U-bottom Deepwell Plate	MGI	2 pieces/bag	bag	1000004644
Hard-Shell Thin-Wall 96-Well Skirted PCR Plates, white shell/clear well	MGI	10pieces/bag	bag	10000002059
2ml SC Micro Tube PCR-PT	MGI	100 ea./bag	bag	1000001553

Product Name	Brand	Specification	Unit	Item NO.
--------------	-------	---------------	------	----------

Kit Ordering Information

Product Name	Specification	Item NO.
MGIEasy FS DNA Library Prep Set	16RXN	1000006987
BGISEQ-500RS High-Throughput Sequencing Set	SE50/PE50/PE100	1000002072/1000005475/1000005478
MGISEQ-2000RS High-Throughput Sequencing Set	SE50/PE100/PE150	1000003703/1000002873/1000003981
MGISEQ-200RS High-Throughput Sequencing Set	SE50/PE50/PE100	1000004635/1000005228/1000005229

*For Research Use Only.

■ Contact Us

MGI Tech Co., Ltd
 Add.: Building11, Beishan Industrial Zone,
 Yantian District, Shenzhen, CHINA 518083
 Email: MGI-service@genomics.cn
 Website: en.migtech.cn
 Tel: 4000-966-988
 Revision: 2018.10



<https://www.linkedin.com/company/mgi-bgi>



@MGI_BGI

