

MGI Low Throughput Automated Solution

Chromosome Copy Number Variation Test

Introduction

MGICare Detection Kit for Chromosome Copy Number Variation Test is a library construction kit for detecting chromosomal abnormalities tailored to the MGI sequencing platform. The kit can be used to manipulate the DNA of samples such as abortion tissue, amniotic fluid, cord blood, peripheral blood, and villus to prepare a single-stranded circular DNA library compatible with MGI sequencing platform. In addition, it is used for high-throughput sequencing to obtain data for the analysis of chromosome copy number variation.

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 the 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 [MGICare Detection Kit for Chromosome Copy Number Variation Test] can be set to up to 16 rxn/run. The

MGI Flexible Automated Solution : Chromosome Copy Number Variation Test

processes available on the MGISP-100 include Fragmentation, End Repair, Adaptor Ligation, PCR Amplification, Purification, Pooling, DNB preparation and more, achieving the effect of the automation of library preparation.

Solution features

Sample type: gDNA from samples such as abortion tissue, amniotic fluid and cord blood [50ng]

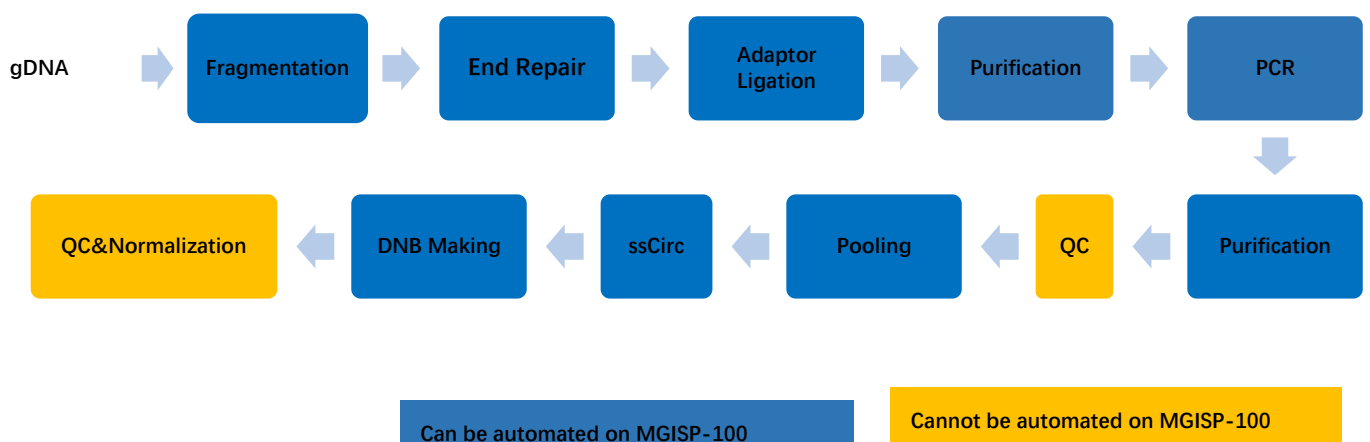
Throughput / run: 16 samples

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

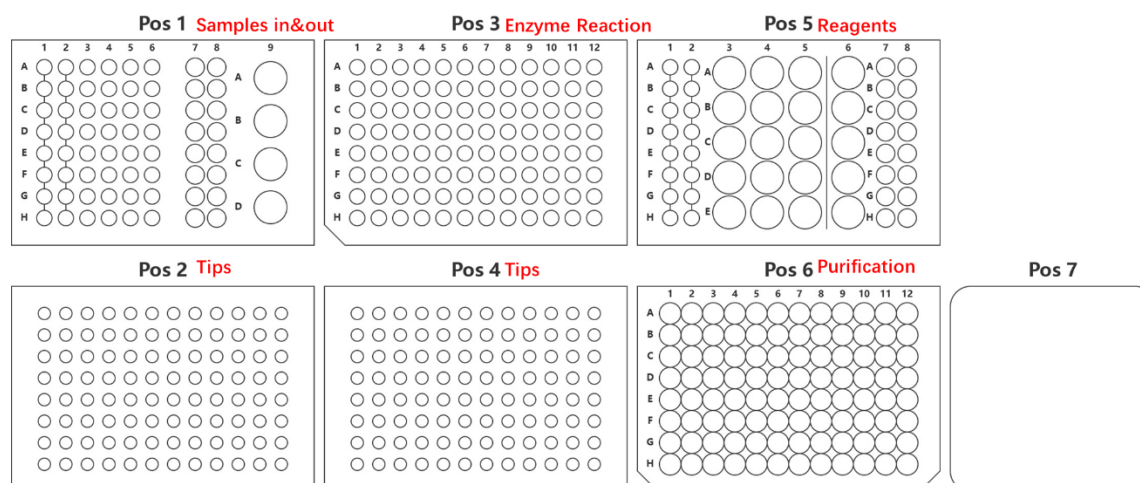
Run time: 45 minutes of manual operation, 5.5 hours of automatic operation

Automated Solution

Workflow on MGISP-100



MGISP-100 Deck layout



Two steps on MGISP-100 for MGICare Detection Kit for CNV Variation Test

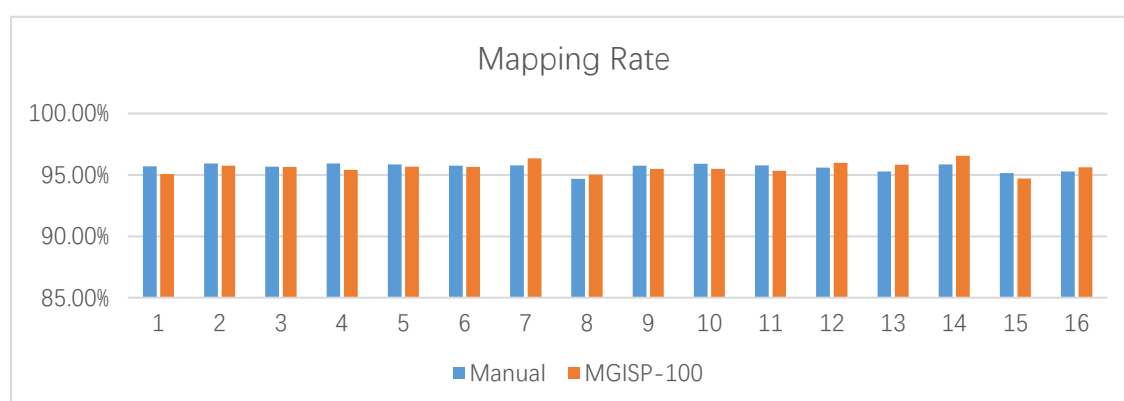
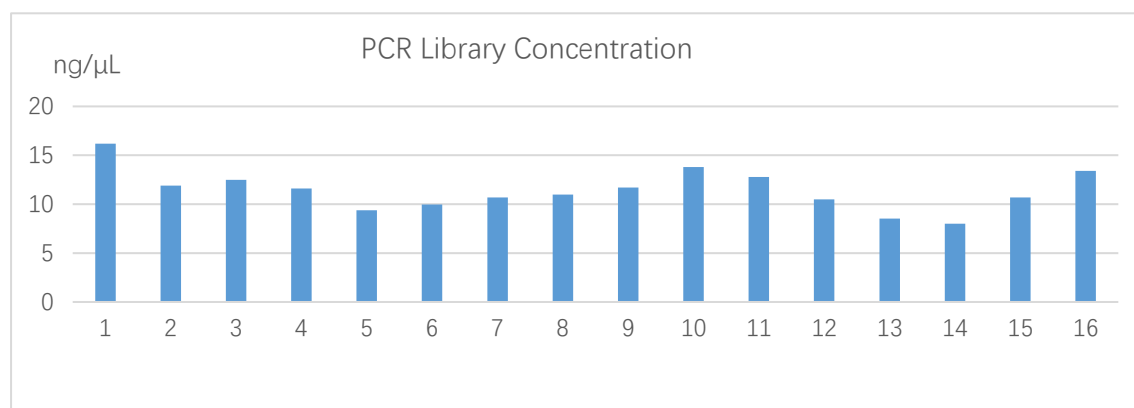
sample preparation

MGISP-100 running time	gDNA → PCR :	≤3.5h
	PCR → DNB :	≤2h
Throughput per run	16 samples	
Matching kit	[MGICare Detection Kit for Chromosome Copy Number Variation Test]	

MGISP-100 Data Performance

For the standard samples of manual preparation, MGISP-100 can complete automated library preparation in batches, so as to obtain stable and effective output. Take a run as an example, using gDNA from 50ng standard samples to complete the library preparation. the qualification rate of library preparation is 100% [$>2\text{ng}/\mu\text{L}$], And the quality of sequencing is comparable to the manual

results



Accurate test results

Testing different manual-made samples and clinical samples, the detection results of the MGISP-100 are consistent with the standard karyotype.

The following are the results of some samples

	Condition	Result
Sample 1	standard karyotype	47,XX,+21
	MGISP-100	47,XX,+21
Sample 2	standard karyotype	47,XY,+X
	MGISP-100	47,XY,+X
Sample 3	standard karyotype	46,XY, dup(11p15.5-p14.3,21.827M),del(11p14.3-p13,11.501M)
	MGISP-100	46,XY, dup(11p15.5-p14.3,22.00M);del(11p14.3-p13,11.33M);
Sample 4	standard karyotype	46,XY,dup(17q24.2-q25.3,16.508M)
	MGISP-100	47,XY, dup(17q24.2-q25.3,16.48M);

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 Tips, Filter, sterile, Low adsorption	MGI	10 boxes/case	case	1000008530
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

Kit Ordering Information

*For Research Use Only.

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