All products

Incluidng High and medium throughput

DNBSEQ-G400*

Stable and flexible sequencer, for medium to large genome sequencing projects.

DNBSEQ-T7*

Fast and flexible ultra-high-throughput sequencer, for large genome sequencing projects and population studies.

MGI Tech Co., Ltd.

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Version： August 2022 | MGPA0303002

Turbocharge Your Sequencing

High-speed, high flexibility and ultra-high throughput

Genetic Sequencer DNBSEQ-T7*

High-speed
20-22h for PE 100

High-flexibility
4 FLOWCELLS, PE100
at the same time

Ultra-high Throughput
1~4T/DAY,
High quality data 24/7

Welcome HotMPS**
Bringing choice to sequencing

Leading Life Science Innovation

◎ ABOUT
MGI Tech Co., Ltd.

MGI Tech Co., Ltd. (referred to as MGI) is committed to building core tools and technology to lead life science through intelligent innovation. MGI focuses on R&D, production and sales of DNA sequencing instruments, reagents, and related products to support life science research, agriculture, precision medicine and healthcare. MGI is a leading producer of clinical high-throughput gene sequencers, and its multi-omics platforms include genetic sequencing, mass spectrometry, medical imaging, and laboratory automation.

Founded in 2016, MGI has more than 1000 employees, nearly half of whom are R&D personnel. MGI operates in 39 countries and regions and has established multiple research and production bases around the world. Providing real-time, comprehensive, life-long solutions, its vision is to enable effective and affordable healthcare packages for all.

◎ Disclaimer

DNBSEQ-T7RS (Cat.No.900-000599-00) whose software has been configured for HotMPS MUST be used in conjunction with MGI's HotMPS sequencing reagent, and MUST NOT be used with MGI's CoolMPS or StandardMPS reagents (or with any reagents containing a 3'O-azidomethyl blocking group). This is important because (i) such sequencers will not work effectively with MGI's CoolMPS or StandardMPS reagents (or with any reagents containing a 3'O-azidomethyl blocking group); and (ii) the use of such reagents will give rise to the risk of patent infringement proceedings. Use of MGI's CoolMPS or StandardMPS reagents (or with any reagents containing a 3'O-azidomethyl blocking group) with such sequencers will invalidate any warranty which may have been provided by MGI, and any liability for intellectual property infringement arising from the use of such reagents is excluded from any IP indemnity.

The HotMPS sequencing reagent can only be used with DNBSEQ-T7RS (Cat.No.900-000599-00) whose software has been configured for HotMPS, and will not work effectively with MGI's sequencer whose software has not been properly configured for HotMPS. Use of these reagents with sequencers whose software has not been configured for HotMPS will invalidate any warranty which may have been provided by MGI, and any liability for intellectual property infringement arising from the use of such reagents is excluded from any IP indemnity.

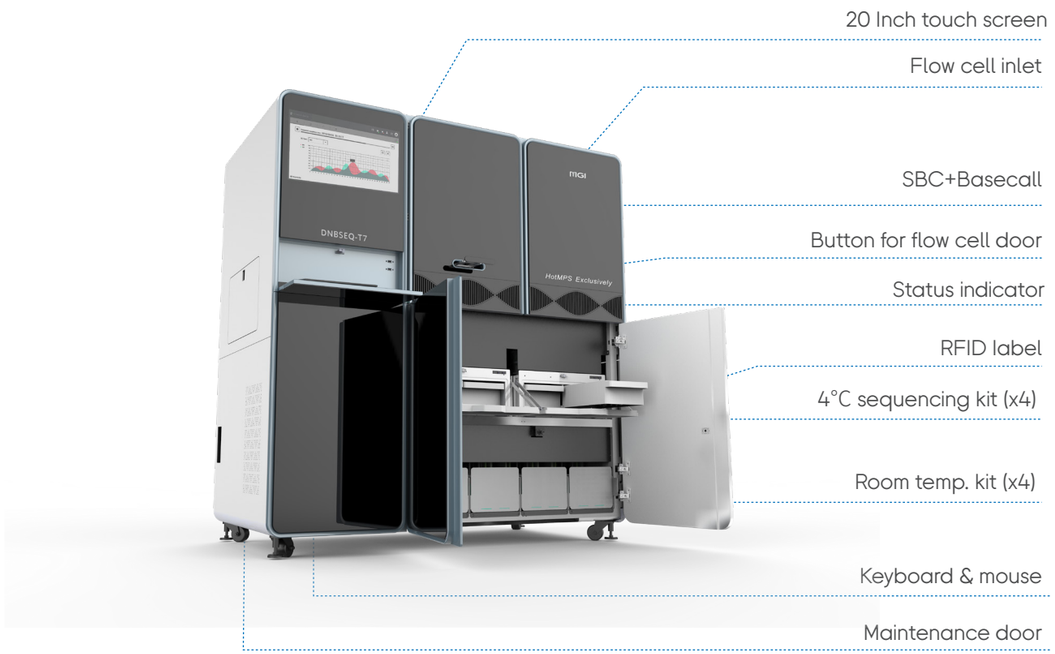
◎ ABOUT
DNBSEQ-T7*

INTRODUCTION

DNBSEQ-T7*

DNBSEQ-T7* can generate 1-4T of high quality data per day, for a wide range of applications including whole genome sequencing, deep exome sequencing, epigenome sequencing, transcriptome sequencing, and targeted panel projects.

Powered by DNBSEQ™ Technology, DNBSEQ-T7* makes sequencing more efficient and productive with advances in biochemical, fluidics, and optical systems.



MGIDL-T7

MGIDL-T7 is an essential auxiliary product for DNBSEQ-T7*. The device is used to prepare sequencing Flow Cells by loading the prepared DNB (DNA Nanoball) and/or reagent to a Flow Cell. It loads one or two Flow Cells in less than 2 hours.

Dimensions	430 mm x 780 mm x 750 mm
Net Weight	81 kg

DNBSEQ-T7* Specifications

1-4 Flow Cells/run, **1** lane/Flow Cell, **5000M** max reads/Flow Cell[1].

Read lengths	PE100
Data Output	1-4 T
Q30[2]	＞85%
Run Time[3]	20-22 hrs

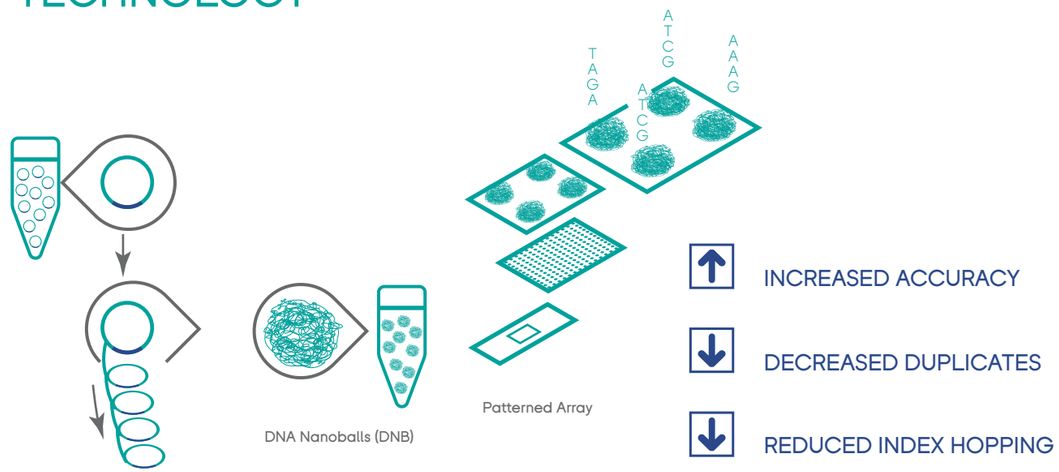
[1] The maximum number of effective reads are based on the sequencing of an internal standard library. Actual output may vary depending on sample type and library preparation method.

[2] The percentage of base above Q30 is the average of an internal standard library over the entire run. The actual performance is affected by factors such as sample type, Library quality, and insert fragment length.

[3] Run time includes Flow Cell loading, sequencing, and outputting cal. File. Cal. is a binary file format generated by MGI sequencer basecall software.

MGI'S PROPRIETARY

DNBSEQ™ TECHNOLOGY



WGS Total Package

STEP 1

Sample pretreatment & preparation

STEP 2

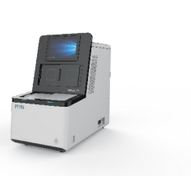
High-throughput sequencing

STEP 3

Bioinformatics analysis

MGISP series

MGISP series include MGISP-100 and MGISP-960, the throughput is 16 samples/run and 96 samples/run respectively, which can perform nucleic acids extraction and library preparation.



MGIDL-T7

MGIDL-T7 is an essential auxiliary product for DNBSEQ-T7*, it loads DNB and/or reagents onto the flow cell to complete the preparation of sequencing.

DNBSEQ-T7*

Sequencing operation contains two main steps. Including manual operation and automatic operation.

Manual operation: (*user login and choose sequencing mode)
automatic sequencing – automatic washing – automatic disposing of flow cells

Automatic operation: load flow cell – place reagent kits – click sequence

Manual operation
*user login and choose sequencing model

Automatic operation

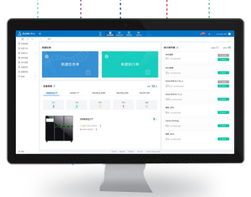
ZTRON Appliance

The ZTRON Pro Appliance (ZTRON Pro) is a data platform which is designed by MGI for the high-throughput sequencers. It integrates LIMS, bioinformatics accelerator and high-performance genetic data storage. It complies with GDPR regulations and reduces IT maintenance costs.

ZBOLT Pro

The ZBOLT-Pro bioinformatics analysis accelerator focuses on high performance data generation for ultra-high throughput sequencers, which accelerates the calculation up to 300 times, and completes the 30X WGS analysis within 0.12 h, realizing the significant optimization of calculation cost and efficiency.

MGI provides a total package for whole genome sequencing. DNBSEQ-T7* is compatible with a variety of products covering the whole processes from sample pretreatment, library preparation, DNB loading, sequencing and data analysis (ZTRON product series), making WGS easy and accessible.



ZLIMS

ZLIMS is a laboratory information management system developed by MGI targeting at pain points in managing laboratories of molecular biology. It supports laboratory management in the full process from bio-samples to experiment outcomes. It has been applied to successfully manage sequencing laboratories dealing with millions of samples.

Paaz

Responsible for the task management of Bioscience analysis and gene data management, while supporting the expansion of access to a variety of Bioscience analysis processes to achieve automatic management from analysis to data.

DATA PERFORMANCE

Whole Genome Sequencing (WGS) Data Performance

DNBSEQ-T7RS HotMPS High-throughput Sequencing Set(PE100)**

Sample	NA12878 human cell line
Prep Set	MGIEasy Universal DNA Library Prep Set
Data analysis	BWG+GATK3.7

Sample	NA12878
Clean Q20 (%)	98.43
Clean Q30 (%)	95.18
Mapping Rate (%)	100
Unique Rate (%)	99.27
Duplicate Rate (%)	0.73
Mismatch Rate (%)	0.29
Average Sequencing Depth (X)	30.74
Coverage at least 1X (%)	99.19
Coverage at least 4X (%)	99.04
Coverage at least 20X (%)	94.29
SNP_Precision (%)	99.91
SNP_Sensitivity (%)	98.99
Indel_Precision (%)	94.28
Indel_Sensitivity (%)	93.29

DNBSEQ-T7RS HotMPS High-throughput Sequencing Set(PE100)**

Sample	NA12878 human cell line
Prep Set	MGIEasy PCR-Free DNA Library Prep Set
Data analysis	BWG+GATK3.7

Sample	NA12878
Clean Q20 (%)	97.66
Clean Q30 (%)	92.94
Mapping Rate (%)	100
Unique Rate (%)	99.46
Duplicate Rate (%)	0.54
Mismatch Rate (%)	0.38
Average Sequencing Depth (X)	30.82
Coverage at least 1X (%)	99.21
Coverage at least 4X (%)	99.04
Coverage at least 20X (%)	93.92
SNP_Precision (%)	99.91
SNP_Sensitivity (%)	99.48
Indel_Precision (%)	98.36
Indel_Sensitivity (%)	96.77

Sample Throughput Guidance for Key Applications

Flow Cell per run	1	2	3	4
WGS samples/run	10～15	20～30	30～45	40～60
WES samples/run Transcriptomes samples/run	64～100 ～100	128～200 ～200	192～300 ～300	256～400 ～400

- Human Genomes assumes＞100Gb of data per sample to achieve 30× genome coverage. Exome assumes ~15Gb/100×. Transcriptomes assumes ≥ 50M reads. Throughput may vary based on library preparation kit used.

Apparatus		MGISP-960	MGISP-100	MGIDL-T7	DNBSEQ-T7*	ZBOLT-Pro	ZTRON Pro (1P)	Server	UPS
Setup Case1	No.	1	1	1	1	0	1	Optional	
Setup Case2	No.	2	1	3	3	1	1		

Summary

Setup Case 1 **On average** can process **48** samples of human 30×WGS per run, with an annual processing capacity of up to 14400 samples.

Setup Case 2 **On average** can process **144** samples of human 30×WGS per run, with an annual processing capacity of up to 43200 samples.

APPENDIX

DNBSEQ-T7* Configurations

		Model	Intended Market
Model[1]		DNBSEQ-T7RS*	RUO
Dimensions		903 mm x 1656 mm x 1815 mm	
Net Weight		765 Kg	
Power	Type		200~240 V, 50/60 Hz, 30 A
	Rated Power		3000 VA
Operating Environment Requirements[2]	Temperature		19~25 °C,<2 °C change per hour
	Relative Humidity		30%RH ~ 80%RH, non-condensing
	Atmospheric Pressure		80 kPa~106 kPa
	Waterproof Rating		IPX0
	Altitude		Below 2000 meters
Floor bearing capacity[3]		≥650 Kg/m^2	
Control Computer Configurations[4]	CPU		Intel CORE I7-7700 4Core x2 3.6GHz
	Internal Storage		16 GB RAM
	HDD		1 TB
	SSD		128 GB
	Operating System		Windows 10
Bandwidth for Network Connection	300 MB/s		For local storage network uploads
	1000 MB/s		For Fastq computing uploads

[1] Only for model classification.

[2] For indoor use only, the Flow Cell can be stored and transported at 0~30 °C. No liquid medium is needed.

[3] Please install DNBSEQ-T7* above the bearing beam.

[4] Supporting the computer configurations and system updates.

MGI GLOBAL PRESENCE

Technical Support Globally

The technical support team has a complete global coverage including technical services centers and multiple locations in major international regions to maximize customer satisfaction.

Multiple local technical support centers around the world provide timely and effective technical support and training

Spare part centers in Shenzhen, Wuhan, Qingdao, Tianjin, Hong Kong (China); Brisbane (Australia); and Riga (Latvia), to ensure sufficient supply of parts for machine maintenance;

Online technical support accessible worldwide, with a fully functioning call center (Toll-Free Hotline: 4000-966-988) (9:00-12:00,13:00-18:00, Beijing time, workday) and multi-language online training courses coming soon

Comprehensive Instrument Service and Warranty Plans Globally

Warehouses in Shenzhen, Wuhan, Qingdao, Tianjin, Hong Kong, Taipei, Bangkok (Thailand,Asia-Pacific); Brisbane (Australia, Oceania); Riga (Latvia, Europe); and San Jose (the USA, Americas) are established to ensure sufficient supply of maintenance parts for major regions.

Free installation and system verification services (including the QC reagents and consumables) are provided to turn your investment into production quickly.

MGI is responsible for any manufacturing defects or faults on the system within the warranty. Warranty covers labor, parts and travel charges.

One Free instrument preventive maintenance provided with warranty, along with a variety of available extended warranty support plans.

Ordering Information

Model	Supplier	Part No.
MGIDL-T7RS	MGI	900-000261-00
DNBSEQ-T7RS*	MGI	900-000599-00
DNBSEQ-T7RS HotMPS High-throughput Sequencing Set (FCL PE100) **	MGI	940-000247-00
MGISP-100RS	MGI	900-000206-00
MGISP-960RS, confg7	MGI	900-000152-00
ZTRON Lite	MGI	900-000406-00
ZTRON Pro (T500)	MGI	900-000444-00
ZTRON Pro (P1)	MGI	900-000446-00
ZBOLT Pro	MGI	900-000460-00
UPS	/	It is recommended to have Rated Power ≥5000VA.

For more ordering information, please contact your local sales representative.

* This sequencer is only available in selected countries, and its software has been specially configured to be used in conjunction with MGI's HotMPS sequencing reagents exclusively.

** This sequencing reagent is only available in selected countries.