

SURFSeq™

Ultra-high Throughput Sequencing System



Sequencing Powerhouse: Unleash the Genetic Potential

Superb Data Output



- Ultra-high throughput: 14 Tb/Run
- Powerful productivity: 9 Tb/day, 20,000+ WGS (30 ×)/year

Ultra-high Data Quality



- Innovative sequencing chemistry+ AI based recognition algorithm
- Capable of producing $\geq 90\%$ of output bases with a Q40 score

User-friendly Design



- Automated individual lane loading for up to eight lanes per flow cell
- Allow customer to obtain data from different applications of the same sequencing run
- Support to resuming from the break-point to continue sequencing
- Post-run wash performed automatically after every sequencing run

Product Parameter

Flow Cell Type	Lane	Throughput ¹ (Reads/FC)	Squencing Reagent Type	Read Length ¹	Output (FC ×2)	Data Quality ¹		TAT ² (Hr)
						Q30	Q40	
FCM	4	11.7 B	50 cycles	SE50	0.6 Tb × 2	≥ 90%	≥90%	10
			100 cycles	SE100	1.2 Tb × 2			13
				PE50				
			200 cycles	PE100	2.3 Tb × 2			19
			300 cycles	PE150	3.5 Tb × 2			24
FCH	8	23.3 B	50 cycles	SE50	1.2 Tb × 2	≥ 90%	≥90%	17
			100 cycles	SE100	2.3 Tb × 2			22
				PE50				
			200 cycles	PE100	4.7 Tb × 2			29
			300 cycles	PE150	7 Tb × 2			36

1. This parameter is obtained based on the average of multiple test results of GeneMind P3 standard library. The data output and the proportion of high quality data are affected by factors such as sample type, sample quality and effective flow cell utilization. The actual performance may vary.

2. The TAT (turnaround time) for a standard run (paired-end 8+8 indexing) encompasses the entire process from library loading to the generation of base-called sequence files.

Application³

Applications	Reads length	Data/sample	FCM	FCH
WGS	PE150	110 Gb	26	52
Single cell RNA-seq	PE150	120 Gb	24	48
ctDNA ⁴	PE150	50 Gb	48	96
WES	PE150	11 Gb	256	512

³ The above sample numbers for different applications are only for reference. Users need to adjust the sample numbers according to the actual experiment.

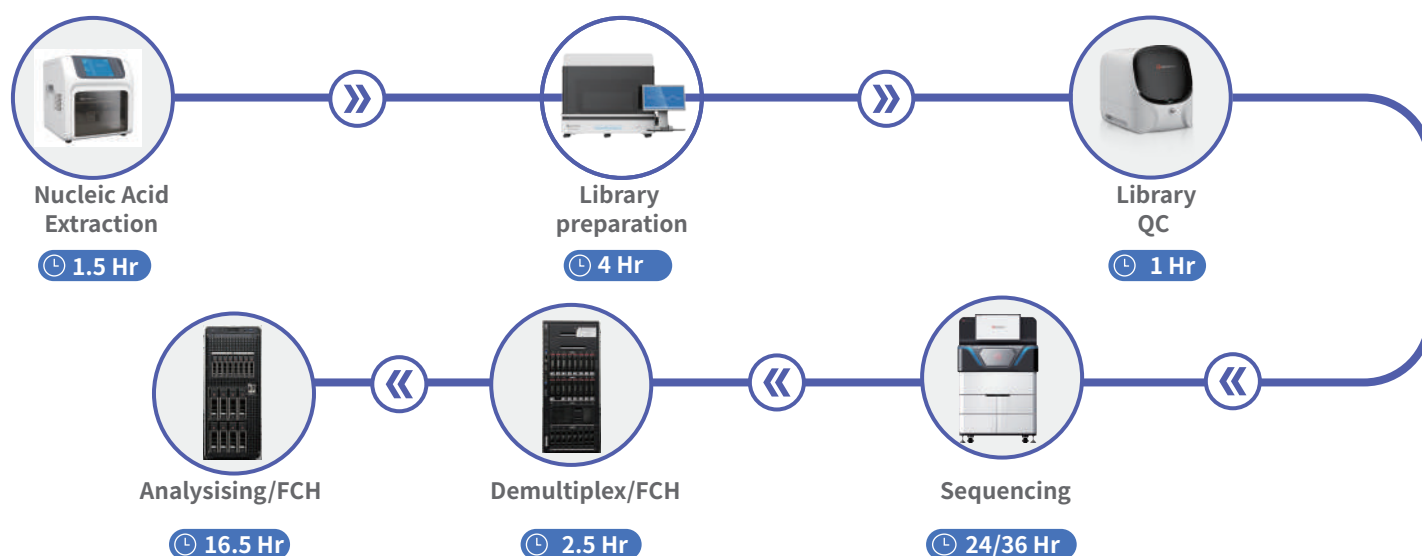
⁴ ctDNA means circulating tumor DNA 2.5 M panel.

WGS

Introduction

Human Whole Genome Sequencing (WGS) holds benefits for many fields, from molecular medicine to human evolution. Population cohort study based on WGS can help researchers understand diseases including: identification of mutations linked to different forms of cancer; the design of medication and more accurate prediction of their effects; advancement in forensic applied sciences; anthropology and evolution.

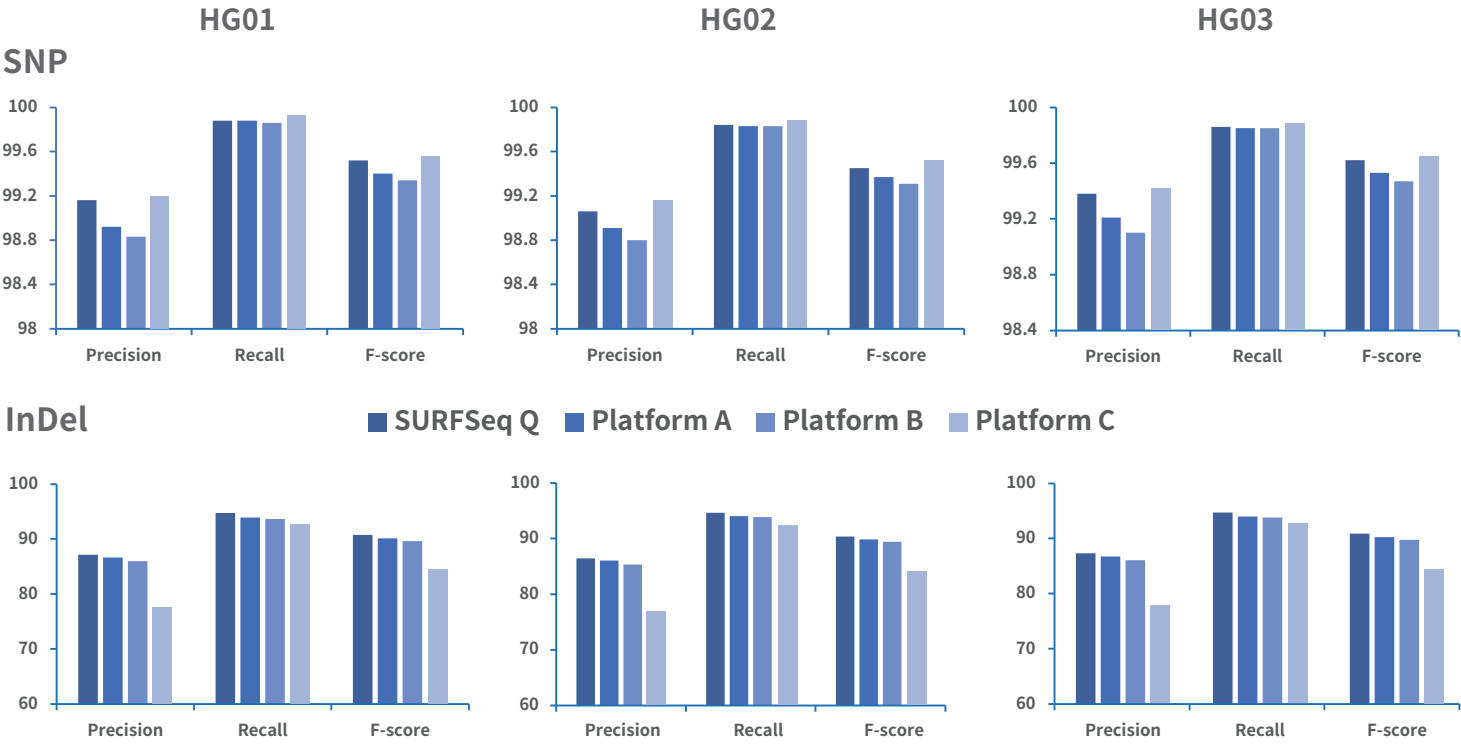
Workflow



Performance

Platforms	Samples	Raw Data (Gb)	Clean Data Rate (%)	Clean Q20 (%)	Clean Q30 (%)	Clean GC (%)	Mappig Rate (%)	Duplication Rate (%)
SURFSeq Q	HG01	120	99.43	97.01	92.37	41.40	99.19	12.82
Platform A	HG01	120	98.16	96.64	91.28	41.64	98.67	17.47
Platform B	HG01	120	98.42	99.06	95.95	42.76	98.70	14.16
Platform C	HG01	120	99.69	98.95	97.56	41.49	99.35	8.40
SURFSeq Q	HG02	120	99.34	97.00	92.19	41.22	99.49	11.42
Platform A	HG02	120	97.65	96.87	91.70	41.34	99.10	16.40
Platform B	HG02	120	97.98	99.11	96.10	42.10	99.26	13.12
Platform C	HG02	120	99.69	99.07	97.83	41.32	99.69	10.22
SURFSeq Q	HG03	120	99.34	97.04	92.34	41.30	99.18	13.10
Platform A	HG03	120	97.69	96.79	91.57	41.37	98.66	17.53
Platform B	HG03	120	98.27	99.11	96.07	42.18	98.93	13.78
Platform C	HG03	120	99.71	98.96	97.61	41.29	99.46	8.62

Platforms	Samples	Raw Data (Gb)	Mean depth (x)	1× (%)	4× (%)	10× (%)	20× (%)	30× (%)
SURFSeq Q	HG01	120	41.20	99.18	99.07	98.89	97.92	87.66
Platform A	HG01	120	40.82	99.18	99.07	98.88	97.72	85.73
Platform B	HG01	120	40.81	99.20	99.05	98.84	97.60	84.72
Platform C	HG01	120	41.40	99.16	99.03	98.83	87.88	88.62
SURFSeq Q	HG02	120	41.32	99.91	99.81	99.51	95.82	85.19
Platform A	HG02	120	41.04	99.91	99.82	99.49	95.66	83.91
Platform B	HG02	120	41.09	99.90	99.80	99.46	95.57	83.65
Platform C	HG02	120	41.52	99.89	99.78	99.46	95.80	85.85
SURFSeq Q	HG03	120	41.20	99.92	99.84	99.55	95.86	84.92
Platform A	HG03	120	40.84	99.92	99.85	99.52	95.68	83.56
Platform B	HG03	120	40.97	99.91	99.83	99.49	95.61	83.58
Platform C	HG03	120	41.41	99.90	99.81	99.51	95.92	86.05



System Specification

Dimensions (W × D × H)	975 mm × 921 mm × 1570 mm
Net Weight	< 500 kg
Power	< 6000 W
Power Requirements	200-240 V~, 50/60 Hz
Operating Environment	Temperature: 19°C-25°C Realvtive humidity: 20%-80% (non-condensing) Altitude: below 2000 meter
Computer Configuration	CPU: Intel Xeon Gold 6326 ×2 Memory: 2 TB Solid-state drive: 3.7 TB Hard disk drive: 76.3 TB Operating system: Windows 10 ×64

Note: This document is based on company data of October, 2025, and is provided for reference only.

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