

SURFSeq

Ultra-high Throughput Sequencing System



Sequencing Powerhouse: Unlocking the Genetic Potential

Superb Data Output



- Ultra-high throughput:14 Tb/Run
- Powerful productivity:9Tb/day,20000+WGS(30x)/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

Specifications

Flow cell type	Lanes per flow cell	Throughput ¹ (Reads/FC)	Sequencing reagent type	Read length ¹	Output (FC×2)	Data quality ¹		Run time ²
						Q30	Q40	
FCM	4	11.7B	50cycles	SE50	0.6Tb×2	≥90%	≥90%	≤10 hrs
			100cycles	SE100	1.2Tb×2	≥90%	≥90%	≤13 hrs
			100cycles	PE50	1.2Tb×2	≥90%	≥90%	≤13 hrs
			200cycles	PE100	2.3Tb×2	≥90%	≥90%	≤19 hrs
			300cycles	PE150	3.5Tb×2	≥90%	≥90%	≤24 hrs
FCH	8	23.3B	50cycles	SE50	1.2Tb×2	≥90%	≥90%	≤17 hrs
			100cycles	SE100	2.3Tb×2	≥90%	≥90%	≤22 hrs
			100cycles	PE50	2.3Tb×2	≥90%	≥90%	≤22 hrs
			200cycles	PE100	4.7Tb×2	≥90%	≥90%	≤29 hrs
			300cycles	PE150	7.0Tb×2	≥90%	≥90%	≤36 hrs

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 flowcell utilization. The actual performance may vary.

2.The sequencing time to complete the sample read length plus the paired-end index (8+8), which included the time from sample loading to base calling to generate basefile.

Applications¹

Applications	FCM	FCM×2	FCH	FCH+FCM	FCH×2
WGS ^{120Gb/sample}	24	48	48	72	96
scRNA-seq ^{60 Gb/sample}	48	96	96	144	192
ctDNA ^{30Gb/sample}	96	192	192	288	384
WES ^{10 Gb/sample}	288	576	576	864	1152
RNA ^{10 Gb/sample}	288	576	576	864	1152

1.The above sample numbers for different application are only for reference. Users need to adjust the sample number according to the actual experiment.

Ordering information

Catalog no.	System
SQ00063	SURFSeq Q Sequencing System
Catalog no.	Sequencing reagent kit
S000379	SURFSeq Q Sequencing Reagent kit V1.0(FCM 50cycles)
S000380	SURFSeq Q Sequencing Reagent kit V1.0(FCM 100cycles)
S000381	SURFSeq Q Sequencing Reagent kit V1.0(FCM 200cycles)
S000382	SURFSeq Q Sequencing Reagent kit V1.0(FCM 300cycles)
S000383	SURFSeq Q Sequencing Reagent kit V1.0(FCH 50cycles)
S000384	SURFSeq Q Sequencing Reagent kit V1.0(FCH 100cycles)
S000385	SURFSeq Q Sequencing Reagent kit V1.0(FCH 200cycles)
S000386	SURFSeq Q Sequencing Reagent kit V1.0(FCH 300cycles)

System specifications

Dimensions W × D × H	975 mm × 921 mm × 1570 mm
Weight	< 500 kg
Power requirements	< 6000 W 200-240 V~, 50/60 Hz
Operating environment	Temperature: 19 °C - 25 °C non-condensing: 20-80% relative humidity Altitude: ≤ 2000 m
Instrument control computer	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

GeneMind Biosciences Co., Ltd

Technical Support: **+86-400-822-3660**

Website: en.genemind.com Email: info@genemind.com

Address: Room 502A/502B/602, Luohu Investment Holding Building, 112 Qingshuihe 1st Road, Luohu District, Shenzhen, Guangdong, China

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