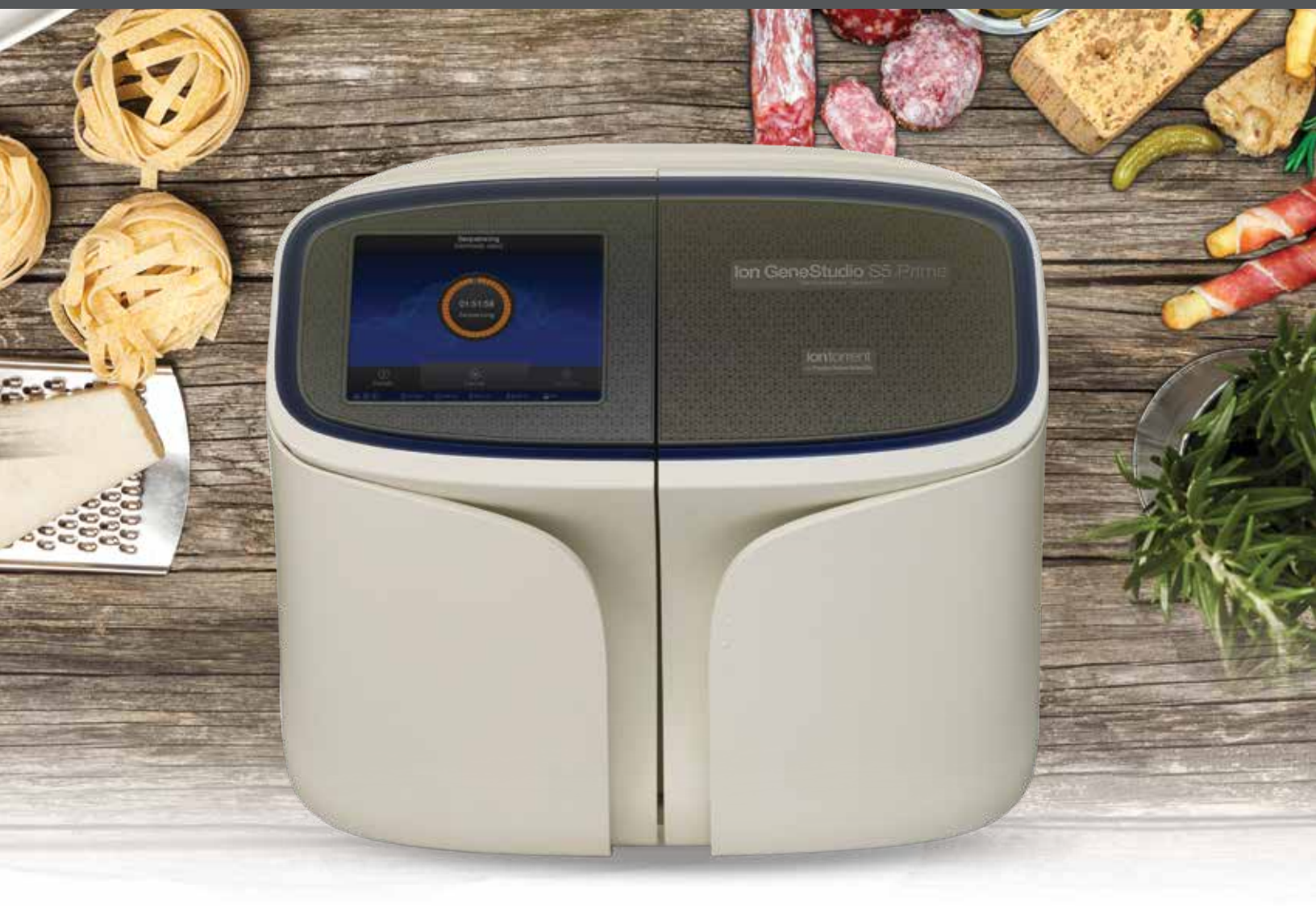
ion torrent



The Ion GeneStudio S5 Food Protection Series Systems

Focused, scalable next-generation sequencing for your food protection applications

ThermoFisher SCIENTIFIC

Choose faster, more scalable next-generation sequencing

Multi-instrument portfolio in one comprehensive NGS system

Since its inception, next-generation sequencing (NGS) has revolutionized genomic research, enabling accelerated biological discoveries and clinical advancements. Its power and potential is now being realized in food analysis applications helping you advance your food protection program.

Built on Ion Torrent™ technology, the Ion GeneStudio™ S5 Food Protection Systems provide an open platform with the simplest sample-to-knowledge workflow for targeted sequencing with industry-leading speed and scalability, allowing you to spend more time answering critical questions in your laboratory.

Five Ion S5 chip options enable a sequencing throughput range from 2M to 130M reads

Ion 510 Chip
2-3M reads

Ion 520 Chip
4-6M reads

Ion 530 Chip
15-20M reads

Ion 540 Chip*
60-80M reads

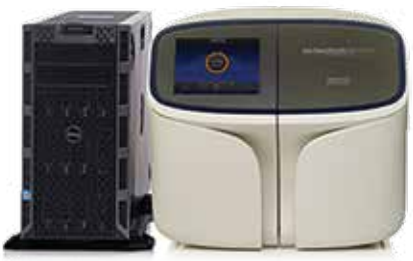
Ion 550 Chip*
100-130M reads

Answer your sequencing questions with reduced workflow and hands-on time

Sequencing and analysis in as little as 3 hours with the Ion GeneStudio S5 Prime Food Protection System

Ion GeneStudio S5 System

Ion GeneStudio S5 Plus System



Ion GeneStudio S5 Prime System

Throughput, scalability and application flexibility–all on the same platform. Choose the system configuration that best fits your budget and testing needs.

*Speak to your food safety representative about ordering information.

Combine the Ion Chef Food Protection Instrument and Ion GeneStudio S5 Food Protection System for an automated, streamlined workflow requiring minimal hands on time.

Prepare

- Automated template prep and chip loading using Ion Chef™ Food Protection Instrument

Sequence

- Easy and fast sequencing using the Ion GeneStudio S5 Food Protection System Series

Analyze

Simplify data analysis with:

- Torrent Suite™ Software
- Ion Reporter™ Software
- SGS™ All Species ID Software

Ion GeneStudio S5 Food Protection Series specifications and performance

Chip type	Number of reads	Read length (output*)	S5 Food Protection System	S5 Plus Food Protection System	S5 Prime Food Protection System
			Turnaround time (sequencing run** plus analysis time)		
Ion 510 Chip	2–3 million	200 bp (0.3–0.5 Gb)	4.5 hr	3 hr	3 hr
		400 bp (0.6–1 Gb)	10.5 hr	5 hr	5 hr
Ion 520 Chip	4–6 million	200 bp (0.6–1 Gb)	7.5 hr	3.5 hr	3 hr
		400 bp (1.2–2 Gb)	12 hr	5.5 hr	5.5 hr
	3–4 million	600 bp (0.5–1.5 Gb)	12 hr	5.5 hr	5.5 hr
Ion 530 Chip	15–20 million	200 bp (3–4 Gb)	10.5 hr	5 hr	4 hr
		400 bp (6–8 Gb)	21.5 hr	8 hr	6.5 hr
	9–12 million	600 bp (1.5–4.5 Gb)	21 hr	8 hr	7 hr
Ion 540 Chip	60–80 million	200 bp (10–15 Gb)	19 hr	10 hr	6.5 hr
		200 bp (20–30 Gb) 2 runs in 1 day	NA	20 hr	10 hr†
Ion 550 Chip	100–130 million	200 bp (20–25 Gb)	NA	11.5 hr	8.5 hr
		200 bp (40–50 Gb) 2 runs in 1 day	NA	NA	12 hr†

* Expected output with >99% aligned or measured accuracy. Output dependent on read length and application.

** Sequencing run times are between 2.5 and 4 hr.

† Analysis of first run occurs concurrently with the second sequencing run.

Instrument Specifications

	S5 Food Protection System	S5 Plus Food Protection System	S5 Prime Food Protection System
Compatible chips	Ion 510, 520, 530, and 540 Chips	Ion 510, 520, 530, 540, and 550 Chips	
S5 Food Protection Instrument dimensions (WxDxH)	54.2 x 80.6 x 50.9 cm		
Server dimensions (WxDxH) and weight	NA	NA	30.5 x 70.9 x 44.4 cm, 41.8 kg
Weight	63.5 kg		
Power	100–240 VAC, 50/60 Hz, 6.5–14.5 A	100–240 VAC, 50/60 Hz, 6.5–14.5 A	100–240 VAC, 50/60 Hz, 6.5–14.5 A
Instrument clearance	Top = 30.5 cm (12.0 in.) Left = 10.0 cm (4.0 in.) Right = 30.5 cm (12.0 in.) Front = 30.5 cm (12.0 in.) Back = 30.5 cm (12.0 in.)		
Other connections	1 GigE Ethernet; 2 x USB 2.0; RJ45-type connector		
Server storage	~12 TB	~24 TB	~25 TB
Software	Alignment and variant calling with Torrent Suite Software; compatibility with laboratory information management systems as well as native integration with Ion Reporter Software (cloud and local server). SGS All Species ID Software (Order code: A38458) is required for running the Thermo Scientific™ NGS Food Authenticity Workflow.		

A laptop computer is supplied with each Ion GeneStudio S5 Food Protection System. Contact your local representative for details.

Ordering Info

Order code	Product
A39514	Ion Chef™ Food Protection Instrument
A39513	Ion GeneStudio™ S5 Food Protection System
A44648	Ion GeneStudio S5 Plus Food Protection System
A44649	Ion GeneStudio S5 Prime Food Protection System

Order code	Service plans
ZG11SCIONCHEF	AB Assurance Ion Chef
ZG11SCIONS5	AB Assurance Ion GeneStudio S5
ZG11SCIONS5PLUS	AB Assurance Ion GeneStudio S5 Plus
ZG11SCIONS5PRIME	AB Assurance Ion GeneStudio S5 Prime

Start your food analysis sequencing journey at
thermofisher.com/food-authenticity-ngs

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 LT2498A November 2019