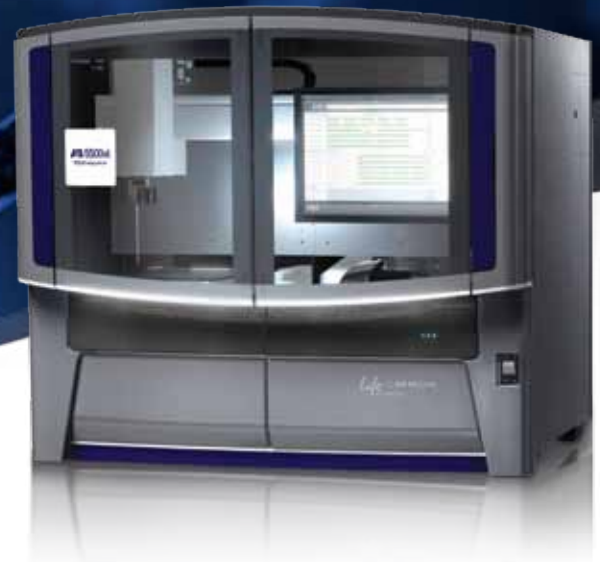


# 5500xl SOLiD™ System

Transformative accuracy for translational research



## 5500xl SOLiD™ System

Preliminary Information Sheet

### Key Benefits

- **Superior variant discovery**  
Up to 99.99% accuracy with the Exact Call Chemistry (ECC) Module
- **Powerful benchtop system**  
Delivery of up to 30 Gb/day
- **Simplified sequencing**  
Embedded controls, reagent usage tracking, and easy-to-use software user interface
- **Cost-effective research**  
Lower cost per Gb of quality sequence with two configurable FlowChips
- **Robust “Six Sigma” design**  
Co-developed with Hitachi-Hi Technologies for the ultimate in instrument quality

### Overview

Never before has a next-generation sequencing platform provided the combination of accuracy, sensitivity, and cost-effectiveness to support your large translational research studies—until now. The new 5500xl SOLiD™ System ensures optimal productivity with two flexible FlowChips, embedded quality controls, intuitive user workflows, and project scalability. With the 5500xl SOLiD™ System, you are empowered to discover rare genetic events or subpopulations of somatic mutations at an unprecedented pace.

#### When coverage is not enough

Additional sequence coverage fails to compensate for poor accuracy in the detection of rare variants that may hold the key to understanding cancer progression, disease penetrance, or drug resistance. The 5500xl SOLiD™ System means performing 25% less sequencing than with a next-generation sequencing platform with up to 99.99% system accuracy, in order to detect a somatic variant present at 1%. The industry-

leading accuracy of the SOLiD™ System enables detection of significant biological variation for applications like whole genome resequencing, targeted resequencing, and whole transcriptome analysis.

#### When flexibility, speed, and cost are crucial

Multidisciplinary translational research programs often require processing multiple samples across multiple applications. The 5500xl SOLiD™ System provides you the flexibility to configure your sequencing runs to your project and throughput needs. The system's two configurable microfluidic FlowChips process up to 12 independent samples, and the intelligent barcoding kits multiplex up to hundreds of samples in a single run. “Pay-per-use” sequencing and independent run lanes tailor the system to any project scale. With the 5500xl SOLiD™ System, you no longer need to delay projects to optimize your run configurations to attain the lowest cost per sample.

## When the utmost productivity and efficiency are essential

Ease of use, quality control, and speed are integral components of any next-generation sequencing workflow. Co-developed with Hitachi High Technologies, the 5500xl SOLiD™ System's elegant benchtop design (Figure 1) incorporates "Six-Sigma" processes to streamline your research. The 5500xl SOLiD™ System delivers streamlined fluidics, and the on-instrument software\* provides a simple, intuitive graphical user interface (GUI) for easy set-up and run monitoring. Real-time analysis and 60% smaller data footprints expedite data export and analysis time. Additionally, with embedded sequencing controls and reagent usage tracking, the 5500xl SOLiD™ System offers the assurance and convenience of sequence run updates, empowering true worry-free walk-away operation.

## Take comprehensive research to new heights

The superior accuracy, flexibility, and maximum productivity of the 5500xl SOLiD™ System accelerate comprehensive research. Larger translational medicine initiatives, genome consortiums, and disease-subtype stratification projects with resulting groundbreaking publications are now within your grasp. Catch them all with the new 5500xl SOLiD™ System.



**Figure 1. Key attributes of the 5500xl SOLiD™ System.** Features contributing to system robustness, reproducibility, efficiency, and cost-effectiveness are illustrated: (1) intuitive software, (2) configurable microfluidic FlowChips, (3) reagent slider deck, (4) reagent usage tracking, (5) rapid robotic fluidic arm, and (6) embedded sequencing controls.

## 5500xl SOLiD™ System Specifications\*

<b>System Components</b>	<ul style="list-style-type: none"> <li>Benchtop instrument and control software with user friendly design</li> <li>5500xl-u SOLiD™ System, Upgrade from SOLiD™ 4 (P/N 4452848)</li> </ul>	
<b>Dimensions (W x D x H)</b>	1200 mm x 750 mm x 800 mm	
<b>Configuration</b>	2 configurable microfluidic FlowChips, each with 6 independent run lanes	
<b>System Accuracy</b>	Up to 99.99%†	
<b>Throughput/Day</b>	Microbeads: Up to 20–30 Gb Nanobeads: Up to 30–45 Gb	
<b>Throughput/Run</b>	Microbeads: Up to 180 Gb, or more than 2.8 B reads (paired-end or mate-paired runs) Nanobeads: Up to 300 Gb, or more than 4.8 B reads (paired-end or mate-paired runs)	
<b>Samples/Run§</b>	Microbeads:	Nanobeads:
	<ul style="list-style-type: none"> <li>2 genomes</li> <li>24 exomes</li> <li>12 transcriptomes</li> </ul>	<ul style="list-style-type: none"> <li>3 genomes</li> <li>40 exomes</li> <li>20 transcriptomes</li> </ul>
<b>Read Length</b>	<ul style="list-style-type: none"> <li>75 bp (fragment)</li> <li>75 bp x 35 bp (paired-end)</li> <li>Up to 60 bp x 60 bp (mate-paired)</li> </ul>	
<b>Run Time**</b>	<ul style="list-style-type: none"> <li>1 day for 35 bp, 1 lane</li> <li>7 days for 75 bp x 35 bp or 60 bp x 60 bp, 12 lanes</li> </ul>	
<b>System Features</b>	<ul style="list-style-type: none"> <li>Internal controls to enable pre-run and real-time run checks to help maximize data quality and performance</li> <li>Flexible system configuration allows cost-effective consumable usage</li> <li>Reduced data footprint for faster data transfer and analysis</li> </ul>	
<b>Consumables</b>	Easy-to-use, application-specific kits	
<b>Multiplexing</b>	96 barcodes for DNA and RNA applications	

\*Specifications subject to change. †Requires use of ECC module. §30x coverage for human genome; ~100x–150x coverage for exome; whole transcriptome >100 M reads/sample.

\*\*Longer run times may result with the use of the ECC module.

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