Your boldest vision. Realized.

Exceptional throughput and transformative economics, more sustainably than ever

NovaSeq™ X and NovaSeq X Plus Sequencing Systems
Dream big. In fact, dream bigger than ever before. With the NovaSeq X series, you can expand the possibilities of how far next-generation sequencing (NGS) can go—exponentially.

Now you have the potential to answer the most complex questions in human genomics, with larger sample cohorts, deeper sequencing, and more data-intensive methods—from whole-genome sequencing to multiomics. Implications for cancer and genetic disease research, and beyond, are far-reaching.

This is transformational throughput. The NovaSeq X series takes user-centric design to the next level and shrinks the total cost of ownership. All to empower genomic scientists to grasp answers previously unattainable, in an unparalleled, smooth experience.
You’re ready to change the world. Go right ahead.

Extraordinary throughput
Exceptionally accurate view of the genome
Operational simplicity and streamlined workflows
Groundbreaking sustainability
World-class service and support
Our fastest, highest quality, and most robust sequencing by synthesis (SBS) chemistry to date. Built from the proven foundation of the most widely adopted and used SBS chemistry, XLEAP-SBS chemistry delivers improved reagent stability, up to 2x faster cycle times, and up to 3x greater accuracy.

This is the power you’ve been waiting for. With the NovaSeq X series, you’ll have the throughput and accuracy you need to deliver more data-intensive applications for meaningful insights at scale.

Ultrahigh-resolution optics and ultrahigh-density flow cells give you high-efficiency sequencing, from 1.6 billion to 52 billion single reads per run, at our lowest price per sample yet.

Powered by XLEAP-SBS™ chemistry

Maximum throughput to unleash your ambitions
Two instrument configurations:

The NovaSeq X Plus and the NovaSeq X systems. Two unmatched sequencing systems. Two game changers. You’ll find they’re designed for an intuitive and optimized high-throughput sequencing workflow.

NovaSeq X Plus Sequencing System

- Independent flow cell operation
- Upgradeable to dual flow cell instrument
- Up to 16 Tb per dual flow cell run or >128 human genomes at 30x coverage

NovaSeq X Sequencing System

- Up to 8 Tb per run or >64 human genomes at 30x coverage
- Independent flow cell operation

The NovaSeq X series

Ultimate user experience

Elegant operational simplicity is built in. You’ll find fewer steps in the workflow, and less hands-on time. This is push-button sequencing from start to finish, including automated onboard cluster generation, automated independent lane loading, and automated post-run wash. Doors and drawers are lit with a glow to help guide workflow. All excellent efficiencies to streamline operations.

Thoughtful ergonomic design

From setup to use to storage, you’ll appreciate features like an extra-large, height-adjustable 4K-resolution touch screen, and a hidden keyboard and touchpad. The lightweight buffer cartridges are easy to handle and the reagent cartridges are easy to disassemble and recycle.

Streamlined, comprehensive informatics

We meet you where your data is, onboard or in the cloud, with flexible run planning options, touchless secondary analysis workflows, and automated baseline data compression for simpler bioinformatics. Data compression means greatly improved data management and storage.

NovaSeq X Plus and NovaSeq X systems.

Max output per run†

NovaSeq X Plus NovaSeq X

<table>
<thead>
<tr>
<th>Paired-end reads per run</th>
<th>Max read length</th>
<th>Run time</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2–6.4 billion</td>
<td>2 × 150 bp</td>
<td>~13–21 hr</td>
</tr>
<tr>
<td>20–40 billion</td>
<td>2 × 150 bp</td>
<td>~18–24 hr</td>
</tr>
<tr>
<td>52–104 billion</td>
<td>2 × 150 bp</td>
<td>~48 hr</td>
</tr>
</tbody>
</table>

† NovaSeq X Plus system will be launched in Q1 2023. NovaSeq X system available later in 2023. 10B flow cell available Q1 2023. 1.5B and 25B flow cells available H2 2023. Performace metrics are subject to change.

For Research Use Only. Not for use in diagnostic procedures.
The NovaSeq X series is driven by your vision to make your biggest experiments more affordable. Perform more ambitious projects. Increase your statistical power. Study many more samples under different conditions or time points, to reveal dynamic properties of cells and biological systems. Reach more insights, faster, in larger sample cohorts.

For genetic disease research, cancer studies, and multiomics, you’ll drive the kind of sequencing depth and scale that will unlock and revolutionize personalized medicine. Quite simply, transform the future of human health.

Unimaginable experiments, made unbelievably cost efficient

<table>
<thead>
<tr>
<th>Population-Scale Studies</th>
<th>Human Whole-Genome Sequencing</th>
<th>Whole-Exome Sequencing</th>
<th>Tumor-Normal Sequencing</th>
<th>Cancer Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multicomics</td>
<td>Transcriptomics</td>
<td>Proteomics</td>
<td>Epigenetics</td>
<td>Comprehensive Genomic Profiling</td>
</tr>
<tr>
<td>Circulating RNA Profiling</td>
<td>Single-Cell Gene Expression</td>
<td>Methylation Sequencing</td>
<td>Circulating Tumor RNA Profiling</td>
<td>Spatial Transcriptomics</td>
</tr>
</tbody>
</table>

For Research Use Only. Not for use in diagnostic procedures.
Impact the world. Not the environment.

The sustainability story of the NovaSeq X series is enabled by its technology strides. We’re working to set a new industry standard.

- Save time and money with a 90% reduction in packing weight and waste
- Maximize storage space with compact cartridges and packaging
- Save disposal costs with more recyclable plastics and no dry ice or ice packs
- Components such as a plant-based biopolymer cartridge add to sustainability
- Vast improvements in shipping and receivable consumables. Smaller footprint and ambient temperatures save time and space.

Save disposal costs with more recyclable plastics and no dry ice or ice packs.

Components such as a plant-based biopolymer cartridge add to sustainability.

Vast improvements in shipping and receivable consumables. Smaller footprint and ambient temperatures save time and space.
Illumina strives to be the best worldwide partner possible, from groundbreaking genomics innovations to ultimate user experience, including exceptional customer service. With our global presence, we have the support to facilitate your success. Wherever you are in the world, we provide the talent, resources, and solutions to maximize your up time.

Our goal is to apply emerging technologies to the analysis of genetic variation and function, making studies possible that were not even imaginable just a few years ago. And this is precisely the power of the NovaSeq X series.

20 years of innovation