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HiSeq® 2500 applications

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Welcome
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HiSeq 2500

Production power.

Power and efficiency for large-scale genomics across a wide array of applications.

The advent of next-generation sequencing (NGS) has accelerated genomics at a spectacular pace. The first complete human genome was sequenced in 2003—a feat requiring over 10 years, hundreds of sequencers, and the collaboration of dozens of laboratories around the world.

Now NGS has taken us from a genome in a decade—to a genome in a day on the HiSeq 2500 System. Our dedication to making sequencing accessible to everyone has helped drive innovation forward.

The HiSeq 2500 System gives you the flexibility to go from multiple genomes in a run, to the fastest whole genome yet. The HiSeq System provides a high-powered, cost-effective solution for large, production-scale projects. Empower your research like never before.

Any application. Any study. Any sample size.

From sample prep through data analysis, we focus on making applications easy—so you can stay focused on your research. Targeted resequencing, gene expression, whole-genome sequencing, epigenetics, and more—we've designed simple, end-to-end solutions for any study. No matter your lab size, research goal, or scale of study.

Simplest workflow for all applications.

Integrated solutions. Streamlined operation. From sample preparation to data analysis, the HiSeq 2500 is a proven and efficient powerhouse for large-scale genomics. Empowering labs to rapidly and cost-effectively take on a broad range of projects.

Easy sample preparation and enrichment

Access a family of reagent kits that provide the industry's fastest and simplest workflows for preparing DNA or RNA samples.

Powerful sequencing flexibility

Scale the instrument output to fit your immediate sequencing needs. Choose between rapid-run mode for fast results or high-output mode for more samples.

Proven data analysis solutions

Go from raw data to meaningful results. Plug into integrated data analysis tools. With our cloud-based computing environment, BaseSpace®, or onsite data processing system, IlluminaCompute™, labs can become fully operational in weeks rather than months—without pre-existing IT infrastructure.

The HiSeq System offers a complete, integrated workflow from sample preparation though data analysis.

Whole-genome sequencing.

Quickly and cost-effectively sequence genomes right in your lab with the HiSeq 2500. Accelerate turnaround time with rapid run mode or, stay in high output mode and sequence multiple genomes in a single run. Both modes produce the industry's highest data quality, for the most accurate and complete whole-genome sequencing results.

Targeted resequencing.

From whole exome analysis to custom enrichment panels, choose from a comprehensive suite of targeted resequencing solutions to support any study design. Scalable discovery and cost-effective validation or screening are now at your fingertips.

Whole-transcriptome sequencing.

From high-throughput gene expression profiling to deep transcriptional analysis, HiSeq offers unprecedented RNA analysis solutions. Measure abundance of individual transcripts and isoforms, discover new genes, and identify regulatory non-coding RNAs.

De novo sequencing and metagenomics.

With a unique mix of high output, long reads, and paired-end sequencing, the HiSeq is a powerful tool for *de novo* sequencing of any size genome. Perform true metagenomic analyses by sequencing entire microbial communities to discover important taxonomic and functional information.

Epigenetics and gene regulation.

Get a more complete biological story by assessing multiple forms of epigenetic regulation in a single HiSeq run. Study DNA-protein interactions and gene regulation using ChIP-Seq. Quantify DNA methylation down to single base resolution.

Regulation

ChIP-Seq

RNA-Seq

Targeted Resequencing

Resequencing

Small Genome

Small RNA Sequencing

de novo Sequencing

Custom Enrichment

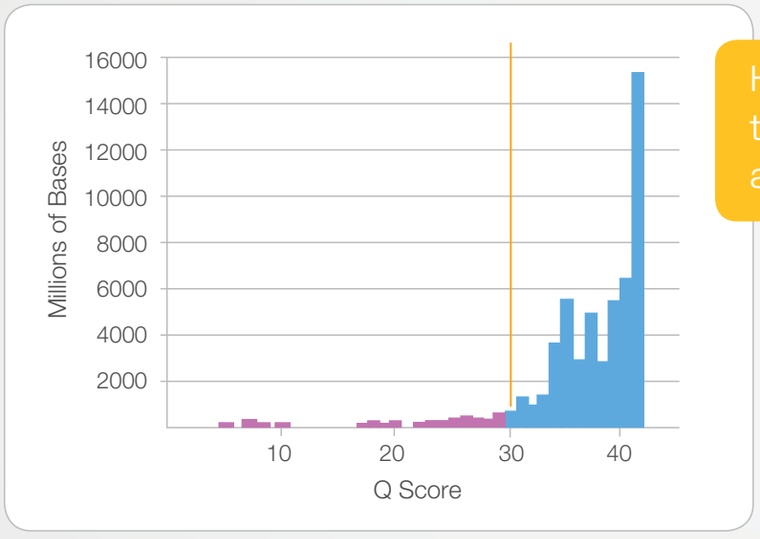
Proven Illumina SBS technology.

Highest accuracy at any coverage level.

Illumina sequencers are the most trusted and widely adopted worldwide for a reason: proven Illumina SBS technology delivers the highest data quality in the industry.

Illumina SBS technology supports an unprecedented range of genomic applications, with exceptional data accuracy. It ensures the highest standard of quality for any research project—empowering you to drive your research forward with the maximum confidence.

Highest quality data—when answers matter.



HiSeq 2500 generates the highest percentage and yield of data > Q30.

Quality scores from a human genome, single flow-cell run sequenced in 27 hours, in rapid-run mode, with > 92% of bases above Q30, and 99.9% accuracy.

The broadest range of sequencing applications.

From whole-genome sequencing to small RNA sequencing, the HiSeq 2500 offers accurate, fast, and cost-effective solutions for any NGS application.

Application	Recommended Read Length	Optimized Kits
Whole-Genome Sequencing		
Resequencing	2 × 100–125	TruSeq DNA PCR-Free Sample Prep Kit TruSeq Nano DNA Sample Prep Kit Nextera DNA Sample Prep Kit
De Novo	2 × 100–125	TruSeq DNA PCR-Free Sample Prep Kit TruSeq Nano DNA Sample Prep Kit Nextera Mate Pair Sample Prep Kit
Targeted DNA Sequencing		
Exome Enrichment	2 × 75–100	Nextera Rapid Capture Exome Kit Nextera Rapid Capture Expanded Exome Kit
Custom Enrichment	2 × 75	Nextera Rapid Capture Custom Kit
RNA Sequencing		
RNA-Seq (Expression Profiling)	1 × 50	TruSeq Stranded mRNA Sample Prep Kit
RNA-Seq (Whole Transcriptome)	2 × 75	TruSeq Stranded mRNA Sample Prep Kit TruSeq Stranded Total RNA Sample Prep Kit
Regulation Applications		
ChIP-Seq	1 × 50	TruSeq ChIP Sample Prep Kit
Methylation Analysis	2 × 75	Epicentre EpiGnome Methyl-Seq Kit

HiSeq 2500 applications

Empower your research with HiSeq.
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