illumina®

HUMAN WHOLE-GENOME SEQUENCING ON AN EPIC SCALE.

The HiSeq X™ Series. **Population power.** Unprecedented speed and performance.

EMPOWERING GROUNDBREAKING SCIENCE.

Human whole-genome sequencing. At a whole new magnitude.

Through relentless innovation, Illumina has accelerated advancements in human whole-genome sequencing (WGS), dramatically increasing throughput and decreasing the cost per genome. And now, with the HiSeq X Ten System, we've delivered the world's first $1000 human whole genome and the power to sequence tens of thousands of genomes annually. Our biggest breakthrough is making population-scale human whole-genome sequencing a reality. The groundbreaking science and discoveries are up to you.

IMPROVING
THE FUTURE OF HUMAN HEALTH.

2011
- Next-generation sequencing (NGS) informs a cancer treatment plan
- Nicholas Volker story: a child's life is saved when NGS uncovers a disease-causing genetic anomaly
- Ultra-deep sequencing reveals subclonal mutations

2009
- *De novo* assembly of Asian and African genomes
- Illumina technology used to detect recurring mutations in the acute myeloid leukemia (AML) genome

2010
- Illumina HiSeq® 2000 System breaks the $10,000 human genome barrier
- Illumina technology is used to create a comprehensive catalog of somatic mutations
- Ancient Paleo-Eskimo genome sequenced
- 1000 Genomes project launches, cataloging human genetic variation
- Methylation explains disease discordance in monozygotic twins

2008
- First human genome sequenced with Illumina technology
- First RNA-Seq method published
- First cancer genome sequenced
- Noninvasive diagnosis of fetal aneuploidy

2013

- NGS enables “liquid biopsies” to detect and monitor cancer
- MRSA hospital outbreak study
- The Pan Cancer initiative compares the first twelve tumor types profiled by The Cancer Genome Atlas (TCGA)
- Illumina releases the first FDA-cleared NGS system, the MiSeqDx™ System

2014

The first $1000 genome

2012

- First human genome sequenced in a day using the Illumina HiSeq 2500 System
- Illumina WGS used to analyze primary AML tumor and relapsed genomes
- HiSeq 2500 System used for rapid WGS analysis to aid diagnosis in a neonatal unit
- FDA Pilots NGS pathogen surveillance with the MiSeq® System
- Encode Project identifies all functional elements in the human genome

Transformative population- and production-scale sequencing.

The HiSeq X Ten and HiSeq X Five Systems are propelling progress, reshaping the economics and scale of human whole-genome sequencing—laying the foundation for transformative breakthroughs.

Scientists, institutions, and nations are now empowered to create a comprehensive catalog of human variation, forge population-based references, drive far-reaching discoveries, and advance our understanding of human biology and genetic disease.


HiSeqX™
Welcome
Press the appropriate button to start.
SEQUENCE
WASH
CHECK
CANCEL
NEXT

THE PATH
TO BIGGER SCIENCE.

And the $1000 human genome.

The HiSeq X Ten System, a set of 10 or more individual HiSeq X Instruments, delivers more than 18,000 human whole genomes per year at the price of $1000 per genome.

The HiSeq X Five System, a set of 5 or more individual HiSeq X Instruments, delivers more than 9000 human whole genomes per year at a higher, yet affordable price per genome.

With a lower initial capital investment than the HiSeq X Ten System, the HiSeq X Five System provides an accessible entry point to production-scale human WGS with an upgradeable path to population-scale sequencing and the $1000 genome. Now genome centers can complete large-scale human WGS projects, expanding the catalog of human variation, and fueling further progress.

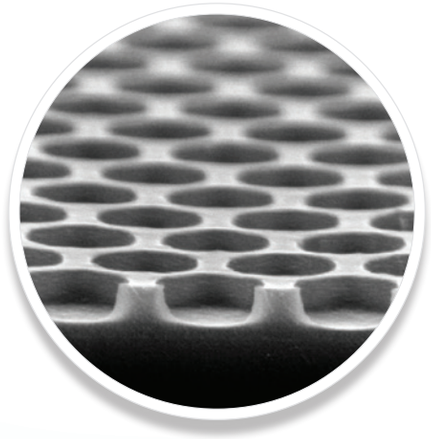
PROVEN
DATA QUALITY MEETS INNOVATIVE TECHNOLOGY.

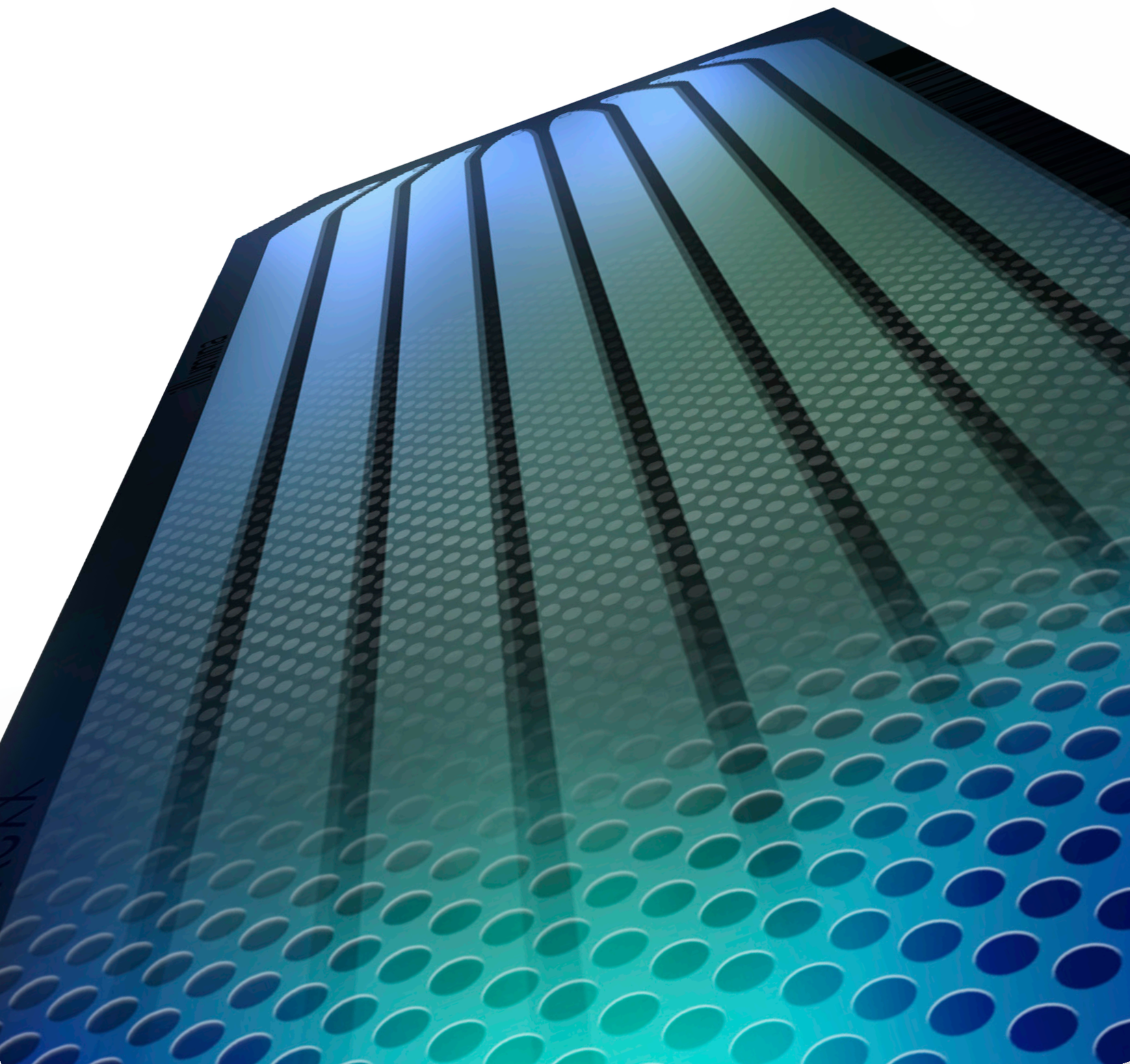
Throughput power. Magnified.

The HiSeq X Series leverages our proprietary and most widely adopted sequencing by synthesis (SBS) technology. With our proven next-generation sequencing solutions, you are ensured industry-leading data quality for the utmost confidence in your results. Building on this powerful foundation, the HiSeq X Series incorporates a novel patterned flow cell technology to generate ultra-high throughput.

Amplify throughput with patterned flow cell technology

Patterned flow cells contain billions of nanowells at fixed locations, providing even cluster spacing and uniform feature size to deliver an extremely high cluster density.






TruSeq v3

REALIZE
THE POTENTIAL.

Expertise. Every step of the way.

To ensure that our HiSeq X Series customers reach their sequencing potential, we have developed an integrated solution to deliver the highest level of operational efficiency. The components of Illumina SeqLab are automated workflows, analysis software, and personalized consulting on best-in-class laboratory practices. From implementation to expansion, we can help you achieve your large-scale WGS goals. Let us empower your groundbreaking science.

World-class solutions.

A community of support.

From sample prep, library prep, arrays, and sequencing to informatics, Illumina next-generation solutions empower researchers and clinical researchers across the globe to find the answers they seek.

When you join the Illumina community, you become part of a dynamic scientific movement that includes thousands of researchers and industry thought leaders. Throughout the year, we host user group meetings, symposia, consortia, online forums, and other initiatives—all designed to bring the best minds together to share ideas and advance science.

In addition to on-site training, ongoing support, and phone consults, we offer webinars and courses at various Illumina locations. We're here with all the resources you need to accelerate progress.

Discover how our next-generation sequencing and informatics solutions can help advance your research. Contact your Illumina representative to learn more or visit **www.illumina.com/hiseqxseries**.

A global genomics leader, Illumina delivers complete next-generation sequencing workflow solutions to the basic and translational research communities. Illumina technology is responsible for generating more than 90% of the world's sequencing data. Through collaborative innovation, Illumina is fueling groundbreaking advancements in the fields of oncology, reproductive health, genetic disease, microbiology, agriculture, and forensic science.

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Pub. No. 770-2015-002 Current as of 15 July 2015

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