

Redefine possible

Illumina Sequencing Systems

You're driven by innovation. So are we.

The power of next-generation sequencing (NGS) has never been so expansive, promising, and exciting. Your boldest goals have every chance of being realized. At Illumina, we provide you with the tools and innovations you need to unlock the power of the genome.

In genetic disease, reproductive health, oncology, microbiology, agriculture, and beyond, researchers and clinicians are relying on Illumina systems to deliver data that powers groundbreaking insights.

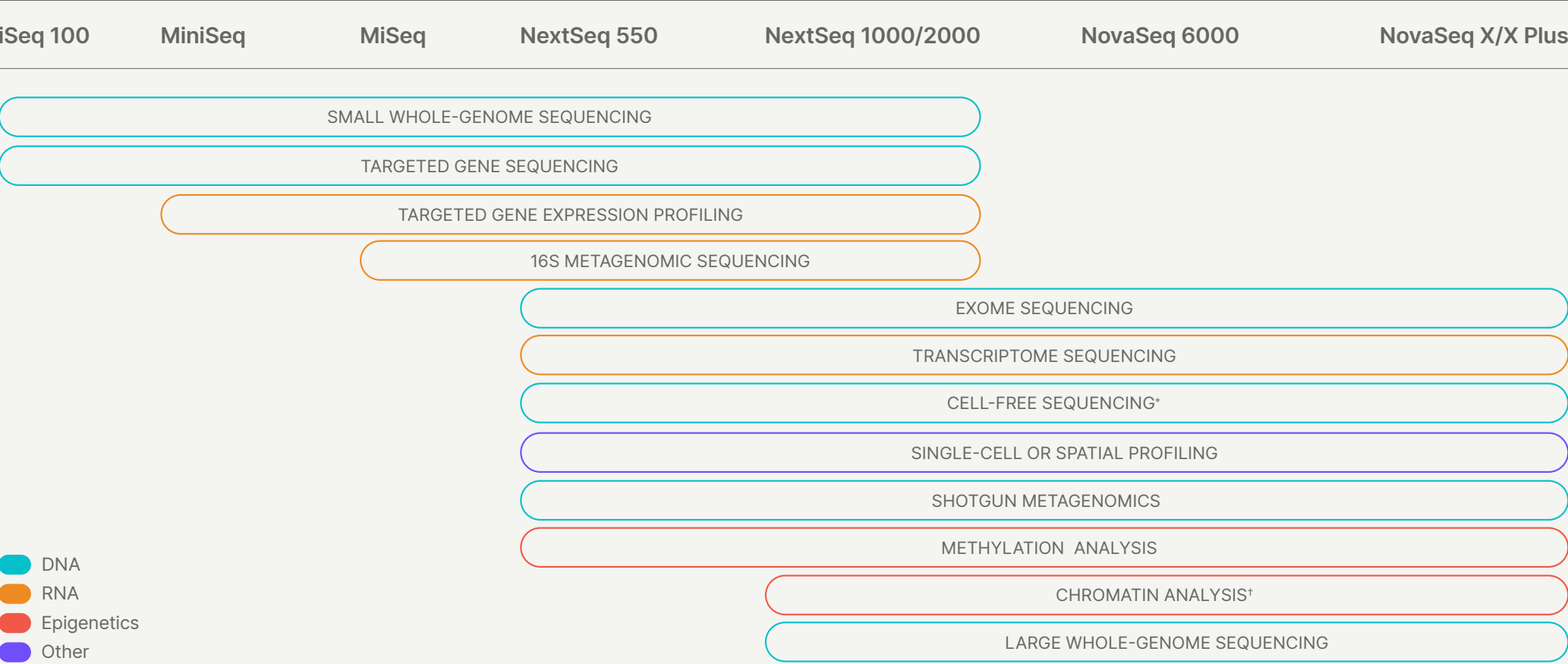
With a full suite of systems, we have the right solution to meet your ever-evolving needs.

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A breadth of solutions. A whole world of answers.



* Cell-free sequencing includes noninvasive prenatal testing (NIPT) and liquid biopsy.

† Chromatin analysis includes assay for transposase accessible chromatin (ATAC-Seq), chromatin immunoprecipitation (ChIP-Seq), and chromatin conformation capture (Hi-C).

From everyday tasks to your boldest projects, there’s an Illumina system to meet your sequencing needs.‡

Research

Our benchtop sequencing solutions, from the iSeq™ 100 Sequencing System to the NextSeq™ 2000 Sequencing System, give you the power of Illumina NGS technology in a highly accessible and flexible design.

Our production-scale sequencing systems enable high-throughput, data-intensive applications. The NovaSeq™ X Series is quite simply a revolution in genomics, powering your studies with exceptional throughput and accuracy. Projects previously thought out of reach are now possible.

Diagnostic

For *in vitro* diagnostic (IVD) applications, clinical testing on the MiSeq™Dx,§ NextSeq 550Dx,§ and NovaSeq 6000Dx§ instruments lead to deep insights to help improve patient outcomes.

‡ Throughput and data intensity determines system recommendations for methods and applications.

§ For *In Vitro* Diagnostic Use. Not available in all regions and countries.



illumina®

NGS at your fingertips



iSeq 100



MiniSeq™



MiSeq

Flow cell	—	Mid-output	Rapid	High-output	Nano	Micro	v2	v3
Output range	144 Mb–1.2 Gb	2.1–2.4 Gb	2 Gb	1.65–7.5 Gb	300–500 Mb	1.2 Gb	750 Mb–8.5 Gb	3.8–15 Gb
Single-end reads per run	4M	8M	20M	25M	1M	4M	15M	25M
Run time	9–19 hr	17 hr	< 5 hr	7–24 hr	17–28 hr	19 hr	5.5–39 hr	21–56 hr
Maximum read length	2 × 150 bp	2 × 150 bp	1 × 100 bp	2 × 150 bp	2 × 250 bp	2 × 150 bp	2 × 250 bp	2 × 300 bp
Included data analysis	Local Run Manager	Local Run Manager			Local Run Manager			



Power and flexibility on your benchtop



NextSeq 550^a



NextSeq 1000 and NextSeq 2000

	NextSeq 550 ^a		NextSeq 1000 and NextSeq 2000		
Flow cell	Mid-output	High-output	P1	P2	P3 ^b
Output range	16–39 Gb	25–120 Gb	10–60 Gb	40–180 Gb	60–360 Gb
Single-end reads per run	130M	400M	100M	400M ^c	1.2B
Run time	15–26 hr	11–29 hr	10–34 hr	13–44 hr	11–48 hr
Maximum read length	2 × 150 bp	2 × 150 bp	2 × 300 bp	2 × 300 bp	2 × 150 bp
Included data analysis	Local Run Manager		Onboard DRAGEN™ secondary analysis		

a. The NextSeq 550 System includes array scanning functionality for cytogenomic, methylation, and karyomapping applications.

b. P3 Reagents are available for the NextSeq 2000 System only.

c. Single-end reads per P2 flow cell 600-cycle kit is 300M.



Production-scale systems to maximize output



NovaSeq 6000



NovaSeq X



NovaSeq X Plus

	NovaSeq 6000				NovaSeq X			NovaSeq X Plus		
Flow cell	SP	S1	S2	S4	1.5B	10B	25B	1.5B	10B	25B
Flow cells processed per run	1 or 2	1 or 2	1 or 2	1 or 2	1	1	1	1 or 2	1 or 2	1 or 2
Output range	65–800 Gb	134 Gb–1 Tb	333 Gb–2.5 Tb	280 Gb–6 Tb	165–500 Gb	1–3 Tb	8 Tb	165 Gb–1 Tb	1–6 Tb	8–16 Tb
Single-end reads per flow cell	800M	1.6B	4.1B	10B	1.6B	10B	26B	1.6B	10B	26B
Run time	13–38 hr	13–25 hr	16–36 hr	< 44 hr	13–21 hr	18–24 hr	~48 hr	13–21 hr	18–24 hr	~48 hr
Maximum read length	2 × 250 bp	2 × 150 bp	2 × 150 bp	2 × 150 bp	2 × 150 bp	2 × 150 bp	2 × 150 bp	2 × 150 bp	2 × 150 bp	2 × 150 bp
Included data analysis	—				Onboard DRAGEN secondary analysis					



More clinical options.
More meaningful answers.



MiSeqDx^{a,b}



NextSeq 550Dx^{a,b}



NovaSeq 6000Dx^{a,b}

	MiSeqDx ^{a,b}		NextSeq 550Dx ^{a,b}			NovaSeq 6000Dx ^{a,b}		
	MiSeqDx v3 (300 cycles) ^a	Capabilities in Research mode ^b	NextSeq 550Dx High Output v2.5 (300 cycles) ^a	NextSeq 550Dx High Output v2.5 (75 cycles) ^a	Capabilities in Research mode ^b	NovaSeq 6000Dx S2 v1.5 (300 cycles) ^a	NovaSeq 6000Dx S4 v1.5 (300 cycles) ^a	Capabilities in Research mode ^b
Flow cells processed per run	1	1	1	1	1	1 or 2	1 or 2	1 or 2
Output range	≥ 5 Gb	300 Mb–15 Gb	≥ 90 Gb	≥ 22.5 Gb	16–120 Gb	1–2 Tb	3–6 Tb	80 Gb–6 Tb
Single-end reads per flow cell	≥ 15M	25M	≥ 300M	400M	400M	4.1B	10B	10B
Run time	24 hr	5.5–56 hr	< 35 hr	< 11 hr	11–29 hr	≤ 40 hr	≤ 45 hr	13–44 hr
Maximum read length	2 × 150 bp ^c	2 × 300 bp ^c	2 × 150 bp	1 × 75 bp	2 × 150 bp	2 × 150 bp	2 × 150 bp	2 × 250 bp
Included data analysis	Local Run Manager		Local Run Manager			Paired DRAGEN server		

a. For *In Vitro* Diagnostic Use. Not available in all regions and countries.

b. In Research (RUO) mode, MiSeqDx, NextSeq 550Dx, and NovaSeq 6000Dx instruments have the same performance specifications as the MiSeq, NextSeq 550, and NovaSeq 6000 Systems, respectively.

c. Refer to package insert for assay-dependent specifications.





Connecting data to insights

With an Illumina system, efficiencies are built in. Our comprehensive software solutions help reduce bioinformatics bottlenecks and streamline your genomics workflow. Whether you're just getting started, or you're in rapid scale mode, Illumina Connected Software** unlocks the power of your data in applications spanning oncology, rare disease, and infectious disease.

Integrated with our sequencing systems, Illumina Connected Software supports genomic and clinical researchers from primary to tertiary analysis, optimizes lab and sample management, and accurately calls genetic variations. Balancing approachability with customization, Illumina Connected Software enables insights for single-sample or population-wide studies.

Meeting you where your data are, Illumina offers solutions for both local and cloud analysis. We are committed to relentless innovation, creating new bioinformatics technologies that expand access to genomics for all.

** Learn more about Illumina Connected Software, illumina.com/products/by-type/informatics-products.html

Proven accuracy

Highly accurate sequencing by synthesis (SBS) chemistry plus DRAGEN secondary analysis deliver award-winning germline and somatic variant calling.** With onboard DRAGEN analysis available on select instruments, users can gain significant cost savings for accurate, comprehensive, and efficient NGS analysis.

High standards for data privacy

To meet the most stringent security requirements, our software products are built with security and compliance at the core. Data sharing security and governance, audit trails with encryption, and controlled sharing ensure your data are kept safe and secure.

Trusted technology partners

Dedicated to your success, the Illumina Informatics Services team brings a staff of bioinformaticians, data scientists, and designers to help you customize and optimize your analysis workflow and minimize your development burden.

†† PrecisionFDA Truth Challenge V2. precision.fda.gov/challenges/10.





Support that never stops

For Illumina, innovation doesn't stop at developing best-in-class systems. Our passion extends to your entire user experience. We support you every step of the way in your NGS journey and aspirations.

STEP 1: Let's find the right solution for you

It's all about your lab's needs now and in the future. We help you determine the right system. Then our in-person trainings and online tools help you discover how to fully expand your research.

STEP 2: Setting up

From library prep to informatics, we'll help you achieve operational excellence, with an optimized workflow that will help you run your lab in a cost- and time-efficient manner.

STEP 3: Maintenance and support

As a global company with 25 years of experience, we not only get you started, we keep your lab running smoothly. We have the infrastructure, teams, and expertise to give you consistent, superior service.

Maximum productivity

Illumina Proactive is enhanced service and support you'll come to rely on. Connect your instruments to your free, customized MyIllumina dashboard for instrument analysis and troubleshooting. You'll receive real-time updates on your run progress and instrument utilization. Proactive risk detection by our support team can minimize unplanned downtime and increase sample success.

You're changing the world. We're right beside you.

Illumina strives to be the best partner possible, from groundbreaking genomics innovations to ultimate user experience to exceptional customer service. With a global presence, you can rely on the support to facilitate your success. Wherever you are in the world, we provide the talent, resources, and solutions to maximize your discovery power.

Our goal is to apply emerging technologies to the analysis of genetic variation and function, making studies possible that were unimaginable just a few years ago.

And this is precisely the power of Illumina—and you.



Every innovation has led to
today—the genome era.

We can't wait to see where
we all go next.



We are always available for questions, insights, and conversation.

Visit us at [illumina.com](https://www.illumina.com).

1.800.809.4566 toll-free (US) | +1.858.202.4566 tel
techsupport@illumina.com | www.illumina.com

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