illumina



DRAGEN[™] secondary analysis

Efficient secondary analysis of NGS data with award-winning accuracy

DRAGEN secondary analysis allows labs of all sizes and disciplines to maximize their genomic insights with award-winning accuracy,^{1,2} a broad menu of applications, and efficient workflows. Get comprehensive coverage with hardware-accelerated genomic analysis algorithms, continuous innovations using machine learning, Multigenome (graph) references, and more.

Maximize the value of the genome



Accurate

Enable a 99.84% accuracy score using Multigenome (Graph) and machine learning with the Precision FDA Truth Challenge V2 benchmark data¹



Comprehensive

Analyze whole genomes, exomes, methylomes, and transcriptomes with a single platform that would take 30 open-source tools to partially replicate³



Efficient

Process an entire human genome at 30× coverage in approximately 25 minutes² and reduce FASTQ file sizes up to 5× with DRAGEN ORA compression

Access DRAGEN software on your platform of choice



DRAGEN on-premises

Analyze and store data locally with an on-premises server in a fraction of the time compared with a traditional CPU-based system



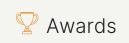
DRAGEN onboard

Analyze data directly on the NovaSeq™ X Series, or NextSeq™ 1000, or NextSeq 2000 Systems without additional computing infrastructure or bioinformatics resources



DRAGEN on cloud

Stream data from sequencing systems to BaseSpace™ Sequence Hub or Illumina Connected Analytics for rapid analysis at scale with no hardware investment



Won the Precision FDA Truth Challenge V2 for "Difficult-to-Map" and "All Benchmark" regions, Won "Best Precision" and "Best Overall" on Panel X and "Best Applicability" in the Precision FDA NCTR Indel Calling from OncoPanel.^{1,2}

Product highlights

Application	On-premises Onboai		oard On-cloud		
	DRAGEN server	NovaSeq X Series	NextSeq 1000 NextSeq 2000 Systems	BaseSpace Sequence Hub	Illumina Connected Analytics
BCL conversion	~	×	~	~	(custom only)
DRAGEN ORA compression	~	 	 ✓ 		
DRAGEN FASTQ + MultiQC	~	~	 Image: A set of the set of the	×	~
Whole genome	Germline + somatic	Germline only Somatic <i>coming soon</i>	Germline only	Germline + somatic	Germline + somatic
Enrichment (including exome)	Germline + somatic	Germline + somatic	Germline + somatic	Germline + somatic	Germline + somatic
DNA amplicon	 		 Image: A set of the set of the	 Image: A set of the set of the	×
RNA	~	~	~	~	~
Single-cell RNA	~		 ✓ 	~	×
Differential expression		~	~	~	
NanoString GeoMx NGS			 	 	
RNA amplicon	×			~	Coming soon
Methylation	×	Coming soon		 ✓ 	~
Metagenomics	×			 ✓ 	
RNA pathogen detection				 Image: A set of the set of the	
COVID	COVIDSeq. COVID Lineage		COVIDSeq. (cloud only)	COVIDSeq. COVID Lineage	
TruSight™ Oncology 500	ctDNA available, solid coming soon			✓ enabled in 3.10	~
ScATAC-Seq	~			×	 Image: A set of the set of the
Imputation	~			~	~
PGx Star Allele Caller	~	Coming soon		~	~
Illumina Complete Long Reads				 ✓ 	
DRAGEN secondary analysis for RPIP and UPIP	~			 	~



Learn how customers are using DRAGEN secondary analysis.



Read about DRAGEN secondary analysis in population genomics initiatives on our resource page.



Explore recent DRAGEN publications.

Learn more

- Food and Drug Administration. Truth Challenge V2: Calling Variants from Short and Long Reads in Difficult-to-Map Regions. precision.fda.gov/challenges/10. Accessed July 14, 2023.
- Food and Drug Administration. NCTR Indel Calling from Oncopanel Sequencing Data Challenge Phase 1. precision.fda.gov/challenges/21. Accessed July 14, 2023.
- 3. Internal data on file. Ilumina, Inc., 2023.

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