INVESTOR PRESENTATION

September 2021

FORWARD-LOOKING STATEMENTS

All statements in this presentation and the associated discussion that are not statements of historical facts constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include, but are not limited to, statements regarding: (i) our ability to successfully complete the development of our G4 and PX Integrated Solutions; (ii) our ability to meet our commercial launch and product delivery timelines and objectives; and (iii) our ability to achieve customer and scientific acceptance for our G4 and PX Integrated Solutions. Any such forward-looking statements are based on our management's current expectations and are subject to a number of risks and uncertainties that could cause our actual future results to differ materially from our management's current expectations or those implied by the forward-looking statements. These risks and uncertainties include, but are not limited to: (i) we have incurred significant losses since inception, we expect to incur significant losses in the future and we may not be able to generate sufficient revenue to achieve and maintain profitability; (ii) we have no history commercializing our products or technology; (iii) the life sciences technology market is highly competitive, and if we fail to compete effectively, our business and operating results will suffer; (iv) if we are sued for infringing, misappropriating or otherwise violating intellectual property rights of third parties, this litigation could be costly and time consuming and could prevent or delay us from developing or commercializing our product candidates; (v) if our products fail to achieve early customer and scientific acceptance, we may not be able to achieve broader market acceptance for our products, and our revenues and prospects may be harmed; and (vi) the COVID-19 pandemic and efforts to reduce its spread have adversely impacted, and are expected to continue to materially and adversely impact, our business and operations. These and other risk factors that may affect our future results of operations are identified and described in more detail in our filings with the SEC, including our Quarterly Report on Form 10-Q for period ended June 30, 2021, filed with the SEC on August 3, 2021. Accordingly, you should not rely upon forward-looking statements as predictions of future events or our future performance. We disclaim any intention or obligation to revise or update any forward-looking statements, whether as a result of new information, future events, or otherwise.

This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates.

MANAGEMENT

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SINGULAR GENOMICS

DNA SEQUENCING TODAY & LOOKING AHEAD

Today: Sequencing established as a foundational tool in research and medicine

- Biological discovery and understanding of disease
- Personalized medicine
- Large impact in cancer (diagnosis, treatment selection and monitoring)
- Recent growth in analysis of single cells and beginnings of spatial profiling of tissue

Looking ahead: Broadening and extending the power of sequencing

- Researchers want more powerful, flexible, and cost-effective sequencing tools
- Clinical applications demand faster turnaround times, integration, and flexibility
- Integration, scale, and multiomic profiling in single cells and tissue

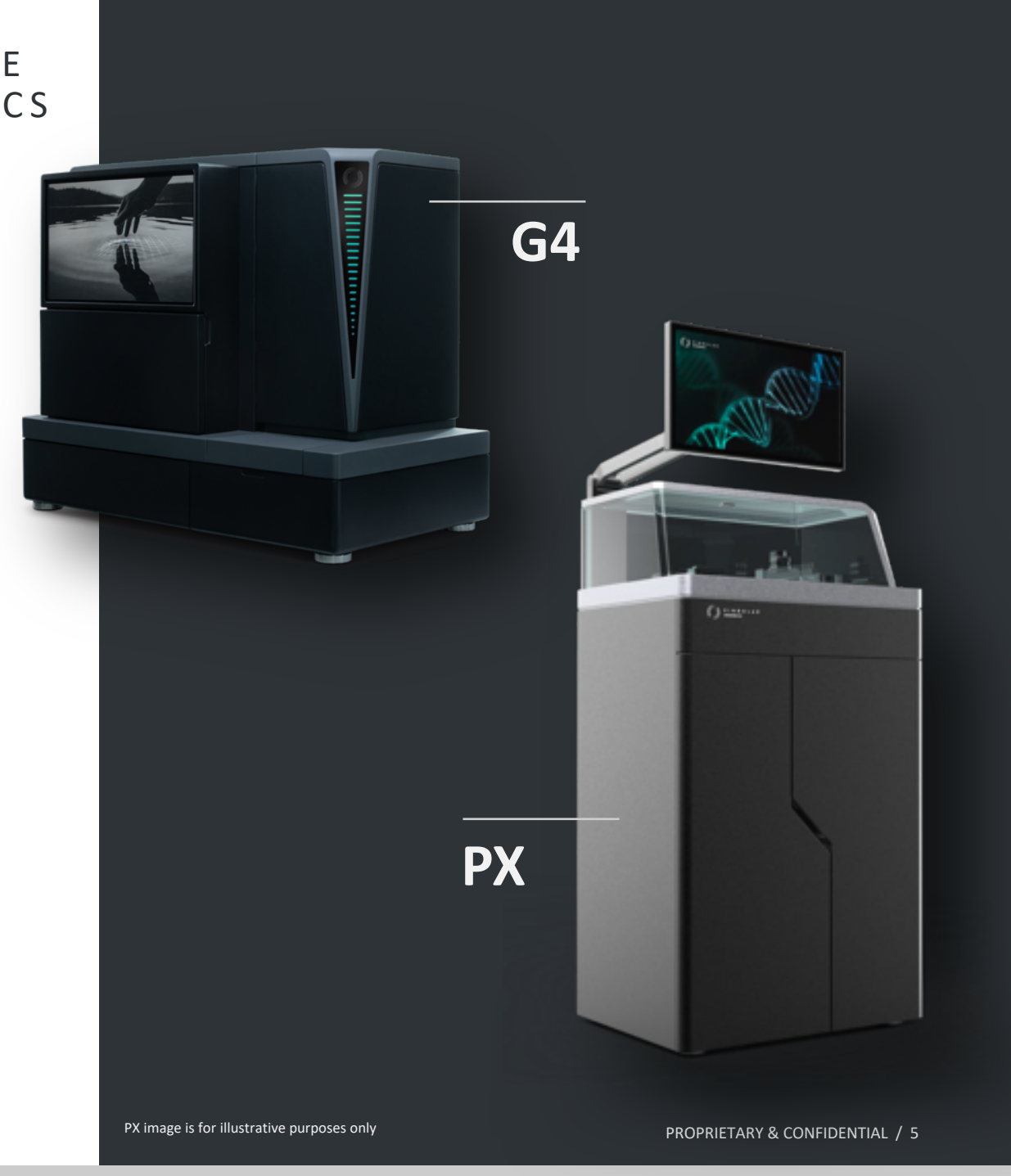
ACCELERATING THE ADVANCEMENT OF SCIENCE AND MEDICINE THROUGH NGS AND MULTIOMICS

1. Proprietary Sequencing Engine supporting four key product tenets: **accuracy, speed, flexibility and scale**

2. Purpose-built integrated solutions targeting applications across **large disease areas**, including **oncology** and **immunology**

3. G4: A **highly versatile** benchtop sequencer targeting applications in research and clinical markets where accuracy, speed, flexibility, and scale matter most

4. PX: An **integrated multiomics**, **single cell**, and **spatial analysis** platform targeting high throughput analysis of nucleic acids, proteins and tissue



PX image is for illustrative purposes only

CORE SEQUENCING ENGINE POWERS OUR TWO INTEGRATED PLATFORMS

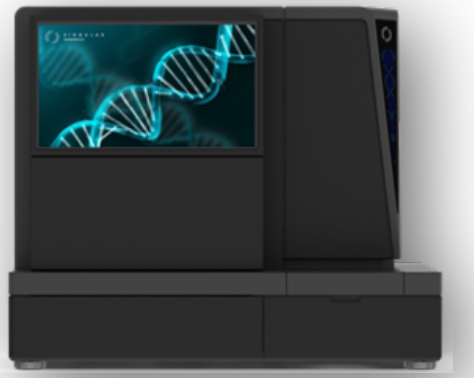
Sequencing Engine

Accuracy, Speed, Flexibility and Scale

G4

Purpose built, next-generation sequencer

HD-Seq	SLR
Rapid Seq	Sequencing



Key milestones

- Commercial launch expected by 2021YE
- First units expected ship in 1H 2022

PX

Integrated in situ platform for multiomic analysis in single cells and tissues

Gene Transcription	Protein Expression
Variant Sequencing	Bulk Sequencing

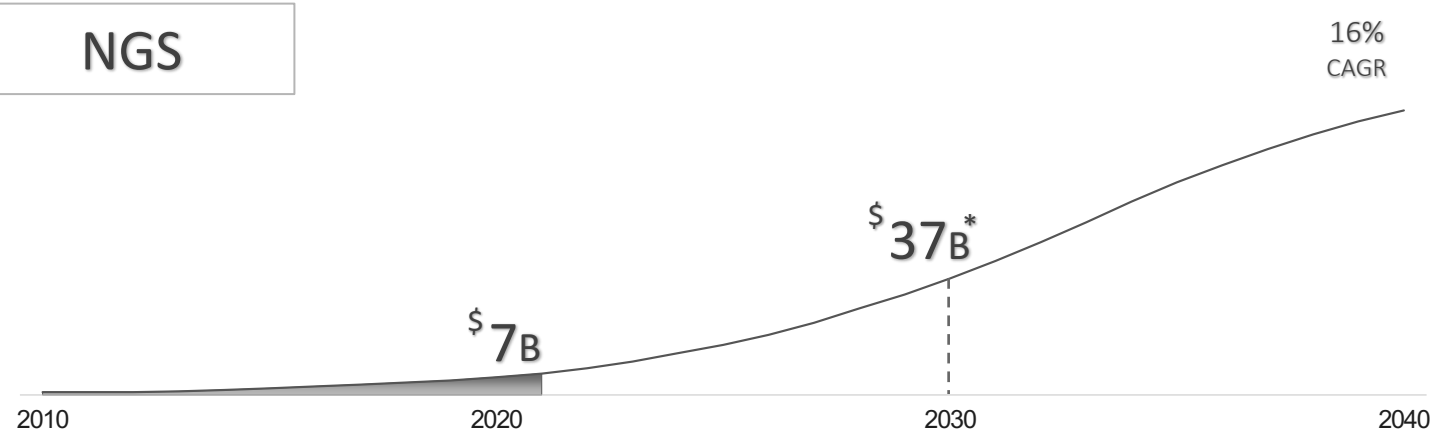
Key milestones

- Early access program to begin 2022
- Commercial launch expected in 2023

TARGETING HIGH GROWTH AND WHITE SPACE MARKETS

ADDRESSING ESTABLISHED MARKETS WITHIN NGS AND EMERGING OPPORTUNITIES IN MULTIOMICS

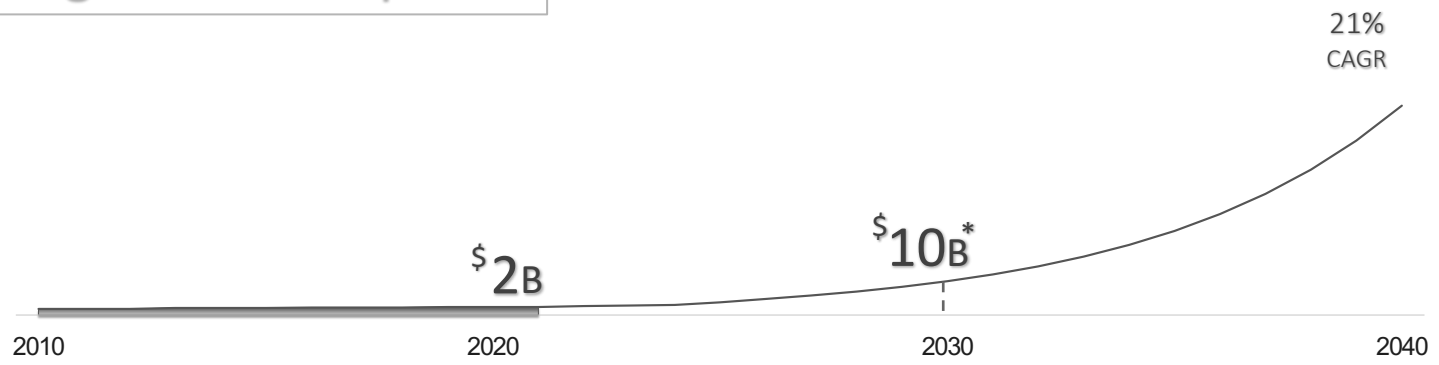
NGS



GROWTH DRIVERS:

- Clinical applications
- Cost
- Speed
- Integrated workflows
- Flexibility

Single Cell and Spatial



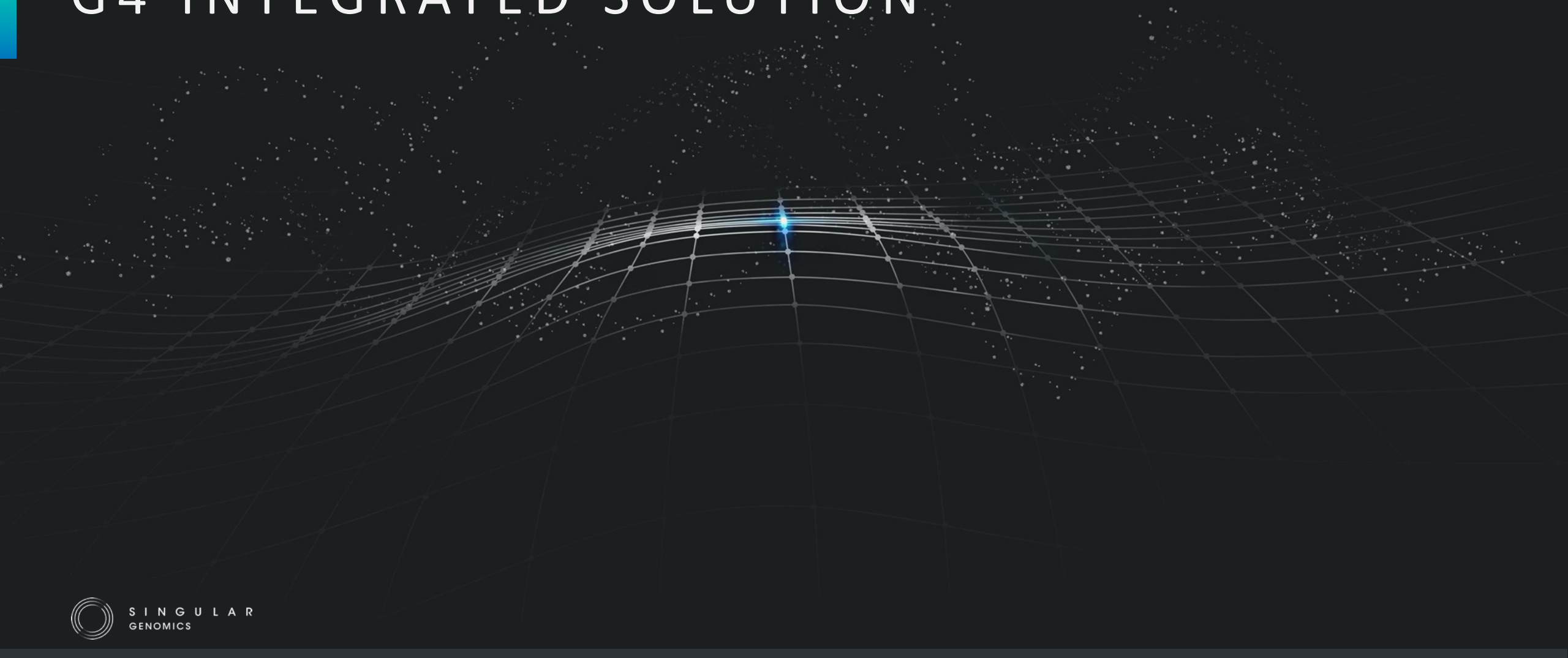
GROWTH DRIVERS:

- Scale (cells and samples)
- Multiomic analysis
- Spatial biology in tissue
- Integration
- Clinical applications

* Note: Market sizes and growth rates are internal Singular estimates based on available industry information; 2030 estimates in line with reports from Allied Market Research and other available industry information

SINGULAR GENOMICS

G4 INTEGRATED SOLUTION

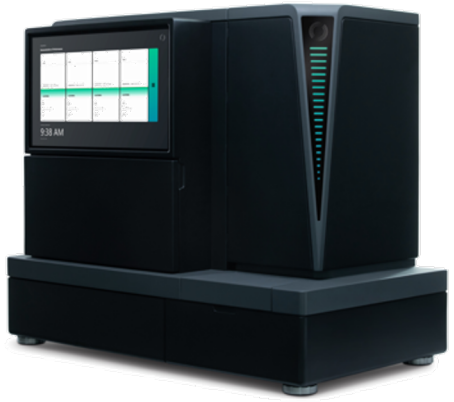


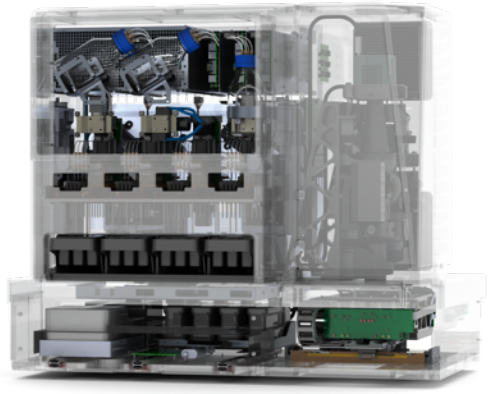
SINGULAR GENOMICS

THE G4 INTEGRATED SOLUTION

DEMONSTRATES SEAMLESS ALIGNMENT ACROSS INSTRUMENT AND CONSUMABLES FOR NGS

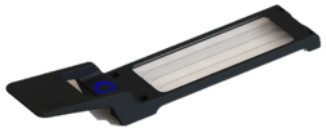
INSTRUMENT



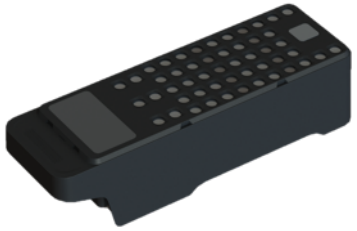


- Purpose built, high performance sequencer leveraging our novel Sequencing Engine
- 4 independent flow cells for parallel runs and enhanced scalability
- Fast, high-resolution optical detection technology

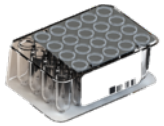
CONSUMABLES



4-independent lane flow cell



Integrated reagent cartridge (clustering & sequencing)



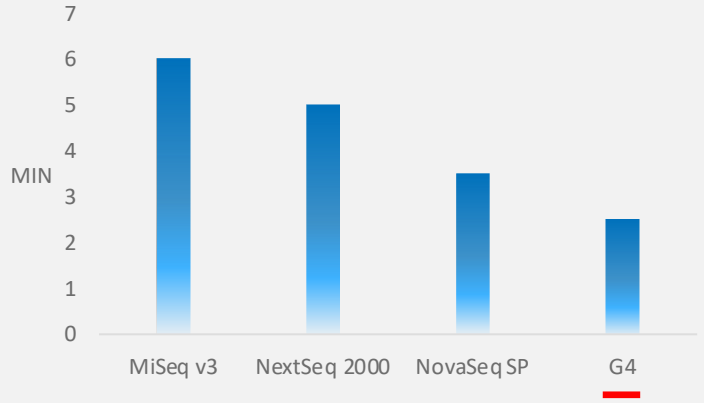
Sample loading cartridge

- Proprietary consumables seamlessly integrated with the Instrument
- Designed to support a broad range of research and clinical applications
- Enables run times of ~5-16 hours for typical NGS applications

G4 CORE SEQUENCING TECHNOLOGY TARGETED PERFORMANCE METRICS*

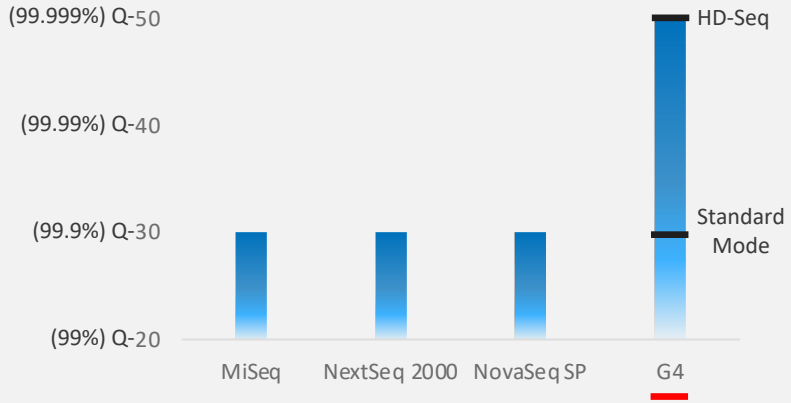
*2-3X Faster Chemistry***

CYCLE TIME



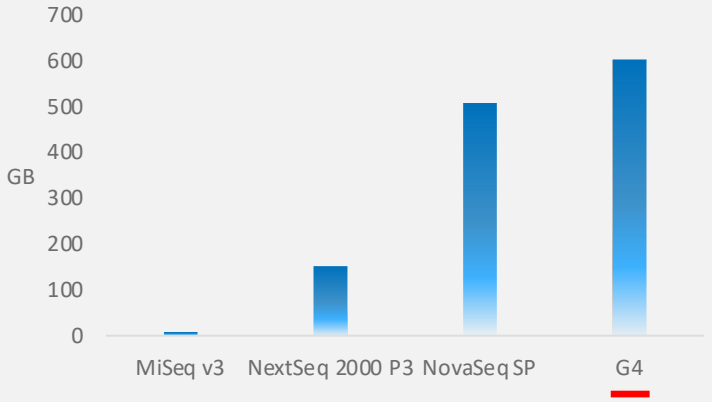
*Up to 100X Better Accuracy***

QUALITY SCORES TO 150 BASES



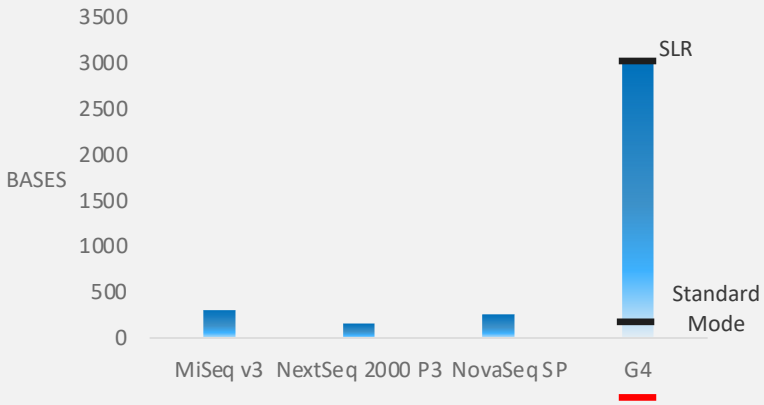
*Data Output Rate***

MAX DAILY OUTPUT



*Read Length***

MAX SINGLE ENDED READ LENGTH



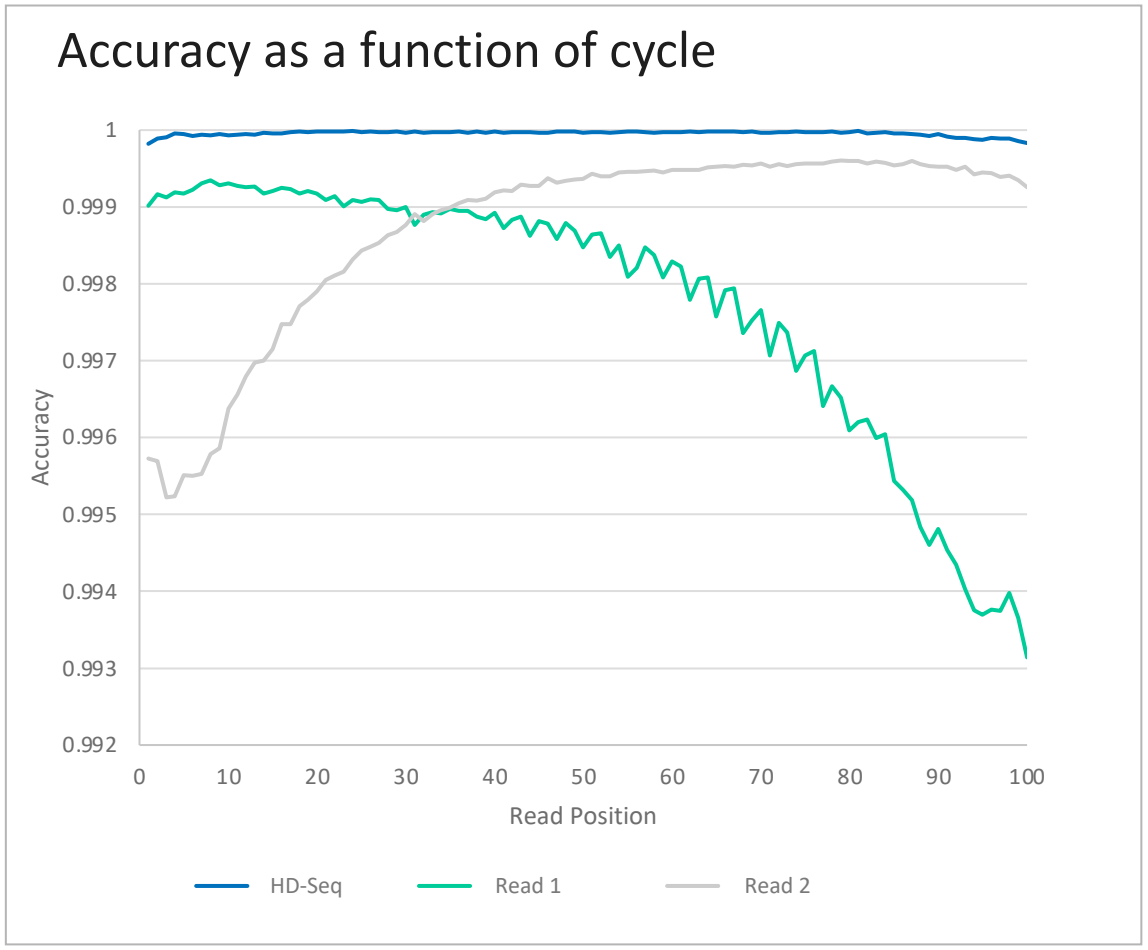
*Represents target performance metrics for the G4 Integrated Solution. The Company expects to release kits at and following launch with these target performance metrics.

**MiSeq, NextSeq 2000, and NovaSeq SP performance metrics based on publicly available spec sheets, but do not represent potential targeted performance metrics for these products.

SINGULAR GENOMICS

HD-SEQ: A DIFFERENTIATED APPROACH TO RARE VARIANT DETECTION

INTEGRATED SAMPLE PREP AND SEQUENCING KIT ENABLING ENHANCED ACCURACY, EFFICIENCY AND COST EFFECTIVENESS



Source: cfDNA library, 100 + 150 paired-end reads

ADVANTAGES

- Enables higher accuracy than existing rare variant detection methods with higher efficiency and lower costs
- Intended accuracy levels of **Q50**, to distinguish real mutations from random errors
- Designed to carry the cfDNA or DNA from tissue through DNA capture and amplification
- Demonstrated **99.996%** accuracy for 100 base reads; anticipate **99.999%** accuracy for >100 base reads

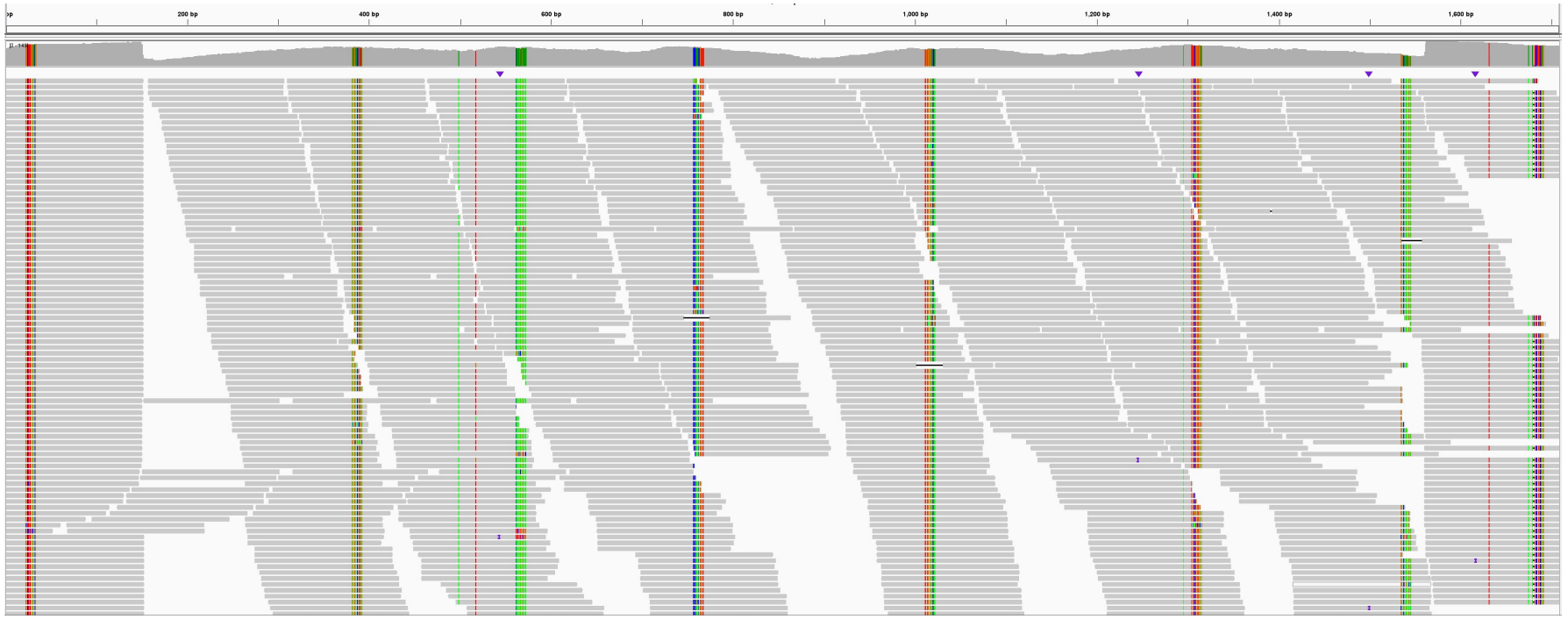
APPLICATIONS: ONCOLOGY

- Detection of somatic mutations
  - Tissue
  - Liquid biopsy

SINGULAR GENOMICS

TARGETED SYNTHETIC LONG READ (SLR) SEQUENCING

ENABLING LONGER READS WITH SHORT READ TECHNOLOGY



Example of *1400 Base Fragment Reconstruct*

PERFORMANCE OVERVIEW

- Expected reads of up to **3,000** base pairs
- **~450** base reads with B cells for VDJ sequencing
- Expected to be crucial for applications requiring long sequencing reads, such as immunology

APPLICATIONS: IMMUNOLOGY

- Diagnosis and monitoring of blood cancers
- Insights for cancer
- Therapeutic antibody and T-cell discovery
- Vaccines for infectious disease

SINGULAR GENOMICS

BETA TEST APPLICATIONS & BETA TARGET PERFORMANCE

Beta Site #1

Sanford Burnham Prebys,
La Jolla, California

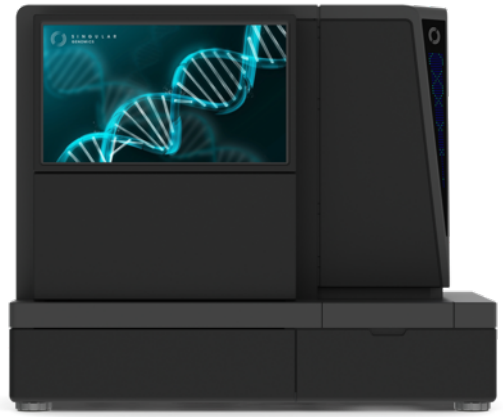
Beta Site #2

Fate Therapeutics,
La Jolla, California

	SBP	Fate Therapeutics	Results
APPLICATION	RNA-Seq	Single-cell RNA-Seq	✓
READ LENGTH	80 bases	91 + 28 bases (paired end)	✓
OUTPUT	100 M reads/FC		✓ SBP: > 150 M average ✓ Fate: > 100 M average
CYCLE TIME	~ 4 min for 2 FCs in parallel		✓
ACCURACY	Q30 for > 70% of base calls		✓
NUMBER OF RUNS	3 runs x 2 FC		✓
RUN INSTRUMENT THROUGH GUI	Yes		✓

CLEAR VALUE PROPOSITION FOR A BROAD CUSTOMER BASE

G4



- *Academic labs*
- *Government research labs*
- *Commercial labs*
- *CRO's*
- *Regional clinical labs*
- *Children's hospitals*
- *Medical center labs*

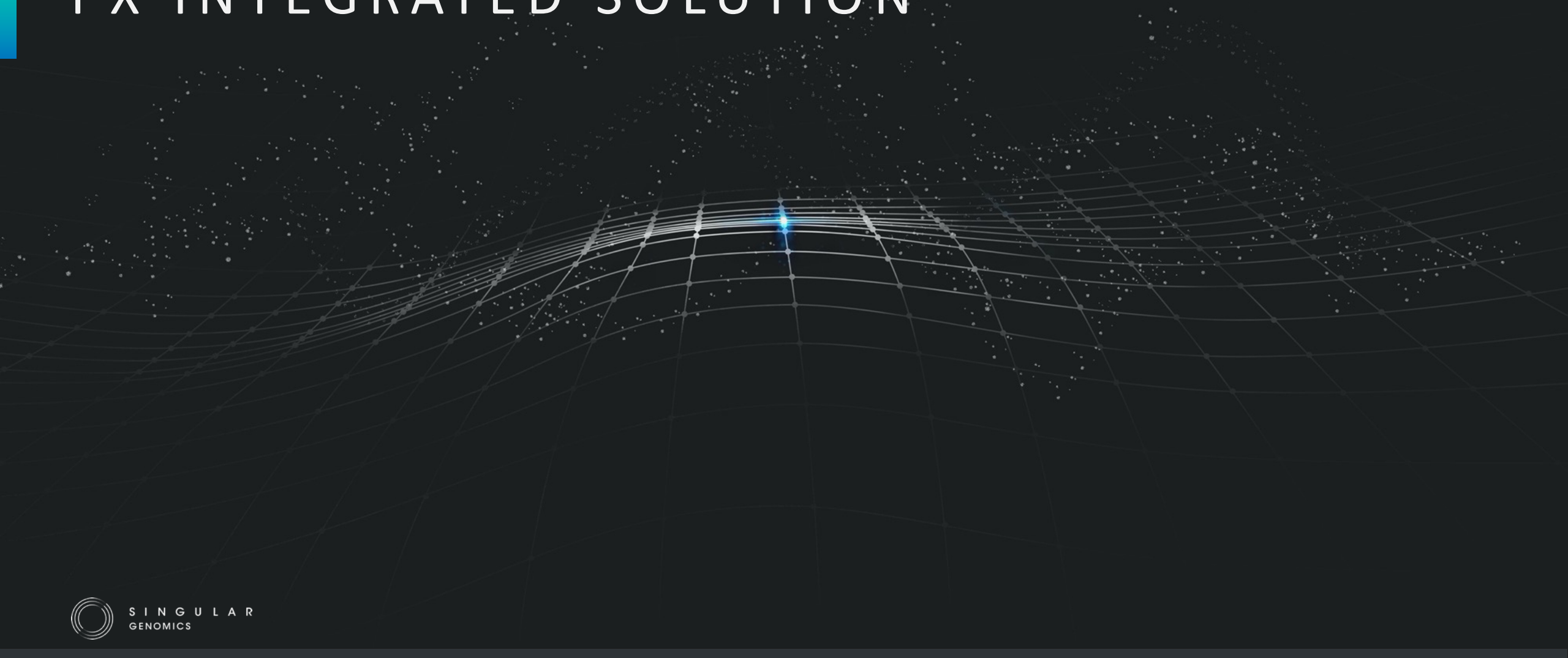
Addresses a variety of institutions across academic, government and commercial spaces

G4X4

- *Genome centers*
- *Commercial labs*
- *Academic core labs*

Targets high volume customers with specific batching needs

PX INTEGRATED SOLUTION



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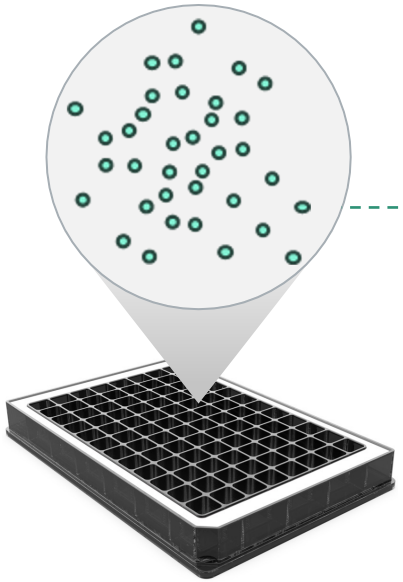
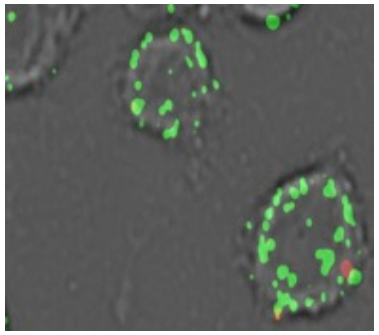
THE PX INTEGRATED SOLUTION

INTEGRATED SEQUENCING, SINGLE CELL, SPATIAL AND PROTEOMICS AT SCALE

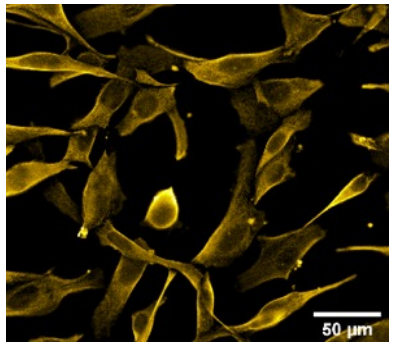
~100K
Cells / well



96 well plate



PX image: In-situ RNA



PX image: In-situ protein

An integrated platform for in situ single cell sequencing, proteomics and spatial analysis

DESIGNED TO INTERROGATE BIOLOGY TO THE FULLEST EXTENT THROUGH MULTIOMICS, SINGLE CELL AND SPATIAL ANALYSIS

PX image is for illustrative purposes only

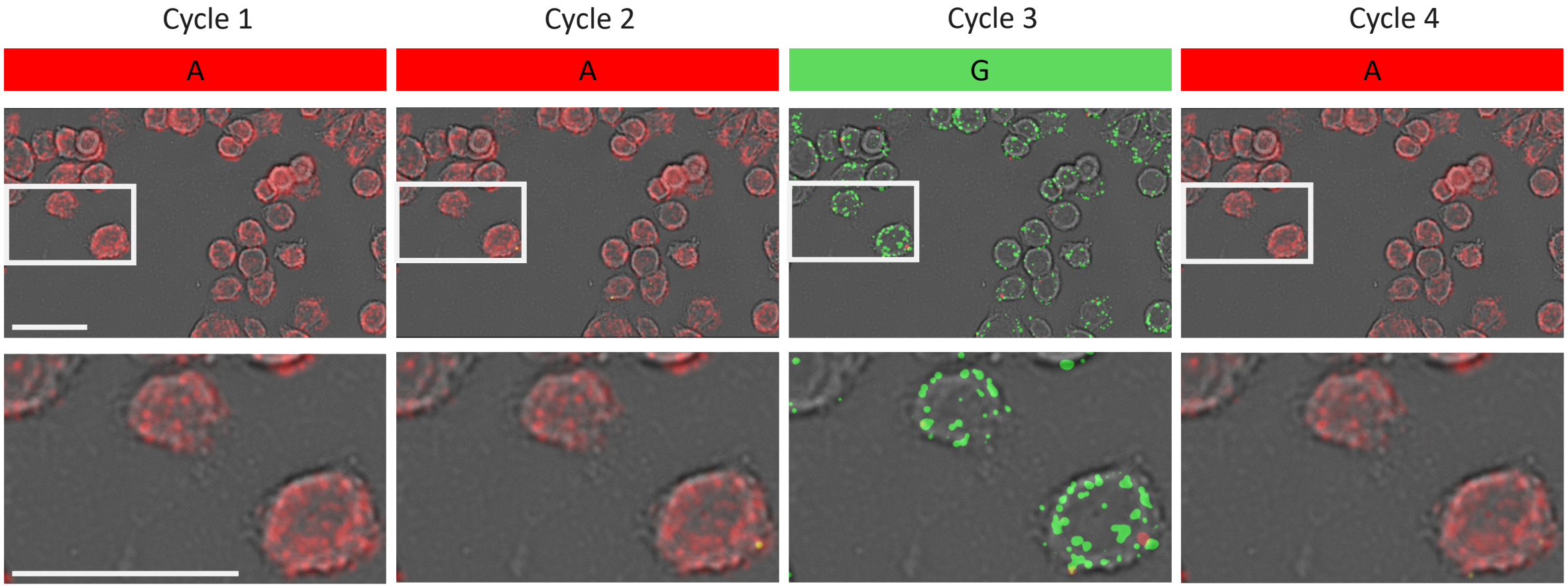
Redefining target performance metrics

Integrated detection	Direct in-situ analysis of cells and tissue
Cell capture efficiency	Direct readout in cells
Gene transcription assays	Targeted panels
Protein expression	10–100 proteins
# of cells/sample	10k–100k cells per well
Throughput	96 samples at a time
Total cells per run	1–10 million cells
Cell visualization	Visual data on the cell morphology, cell surface, and intracellular markers on each cell
Cost	Significantly less cost per cell including NGS

IN-SITU SINGLE-CELL RNA-SEQ ON PX ALPHA

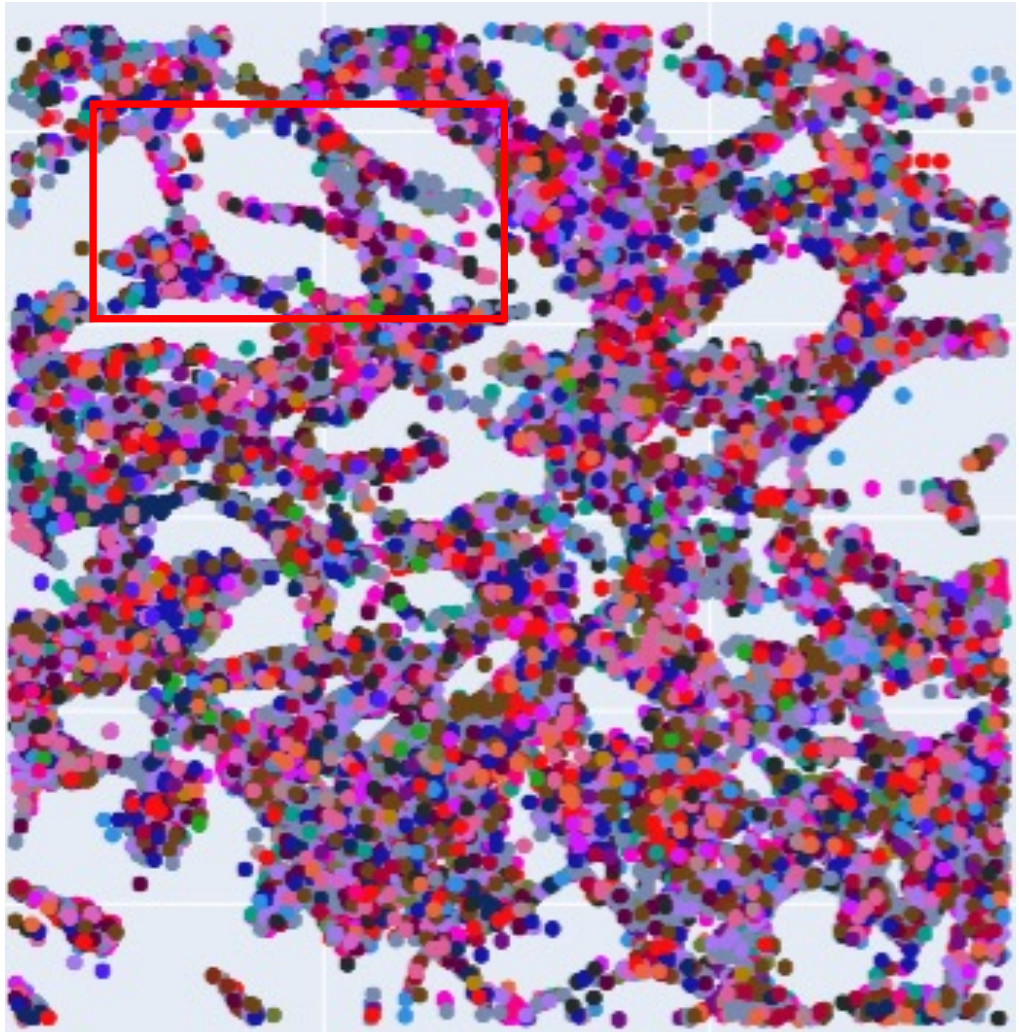
Cells: SK-BR-3 (breast cancer cell line)
RNA Target: ERBB2 (HER2)

4 Sequencing cycles
Expected barcode: AAGA



Scale bar = 50 um

40-PLEX RNA-SEQ – DECODED DOTS



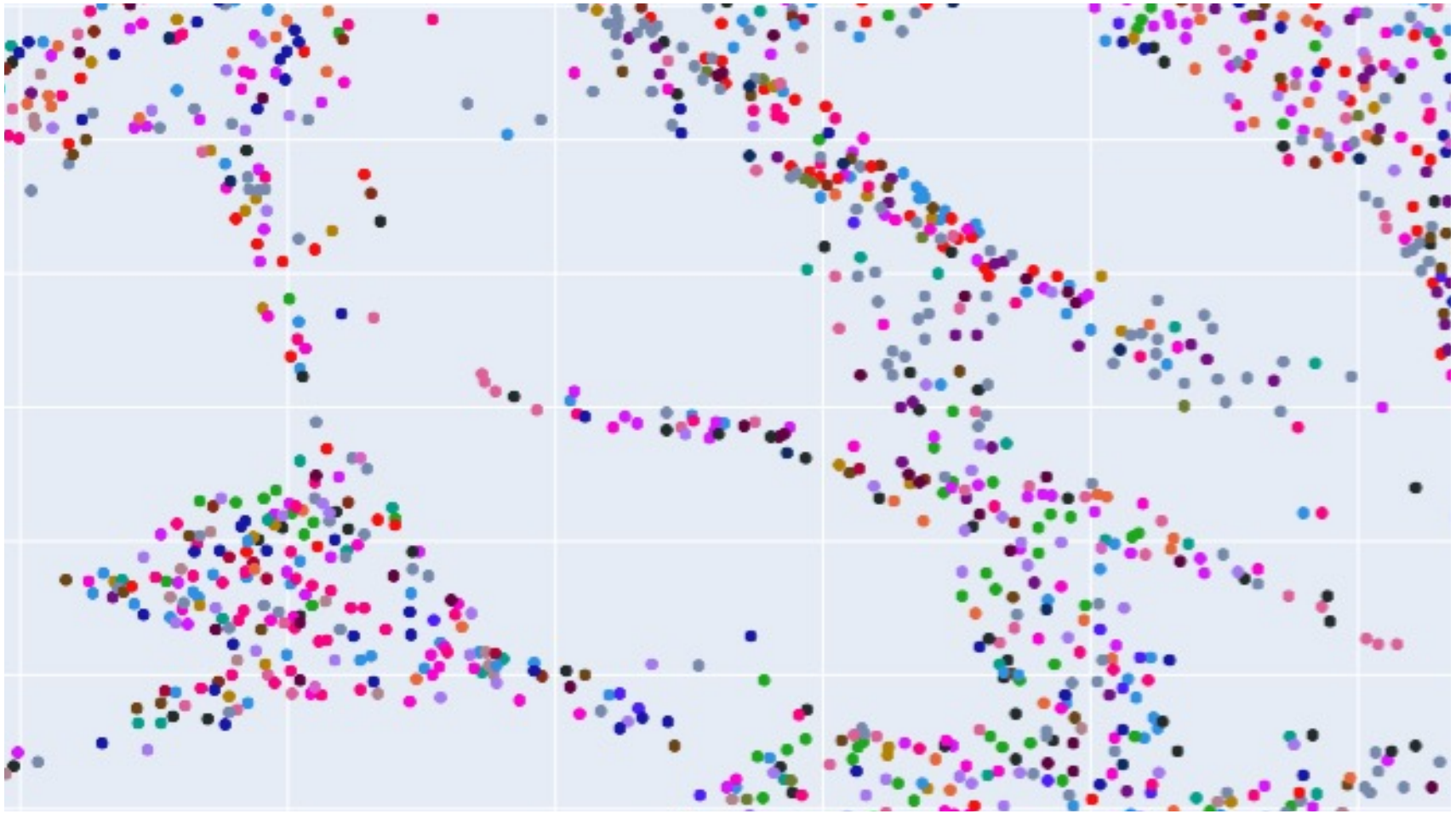
Glioblastoma cells (U-138MG)

GENES

JUN	CDK7
ISG15	KRAS
SPP1	DCN
MKI67	ENC1
JUNB	SLIT2
KLHL5	MEIS2
RORB	CADPS
CEP55	CACNA2D1
COL5A2	NDNF
OXR1	CSRP2
S100A4	CRYM
MYLK	CDH13
NCAM1	PTPRK
NTNG1	KRT8
ID3	CHN1
STMN1	COL4A1
BRAF	ERBB2
ALCAM	HLA-DRB1
CTCF	ICAM1
LDB2	PECAM1

40-PLEX RNA-SEQ – DECODED DOTS

ZOOM IN



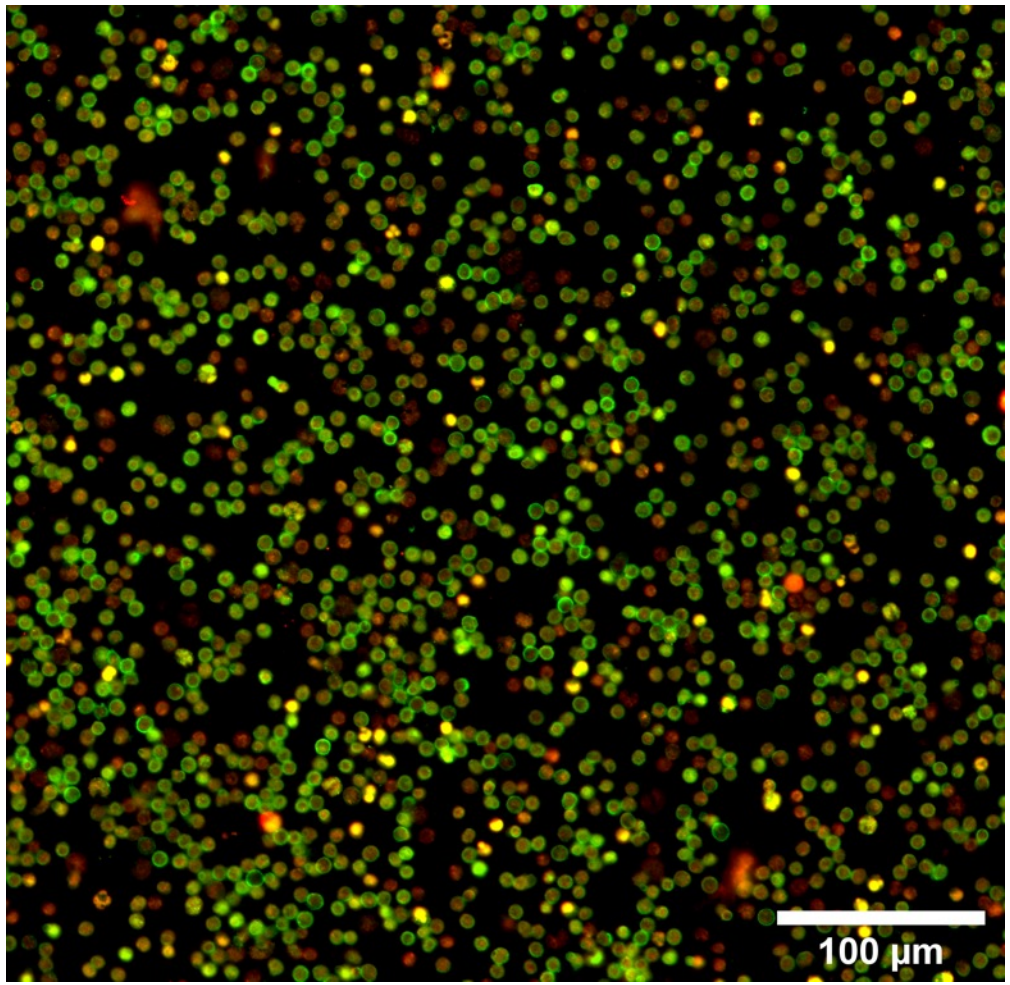
GENES

- JUN
- ISG15
- SPP1
- MKI67
- JUNB
- KLHL5
- RORB
- CEP55
- COL5A2
- OXR1
- S100A4
- MYLK
- NCAM1
- NTNG1
- ID3
- STMN1
- BRAF
- ALCAM
- CTCF
- LDB2
- CDK7
- KRAS
- DCN
- ENC1
- SLIT2
- MEIS2
- CADPS
- CACNA2D1
- NDNF
- CSRP2
- CRYM
- CDH13
- PTPRK
- KRT8
- CHN1
- COL4A1
- ERBB2
- HLA-DRB1
- ICAM1
- PECAM1

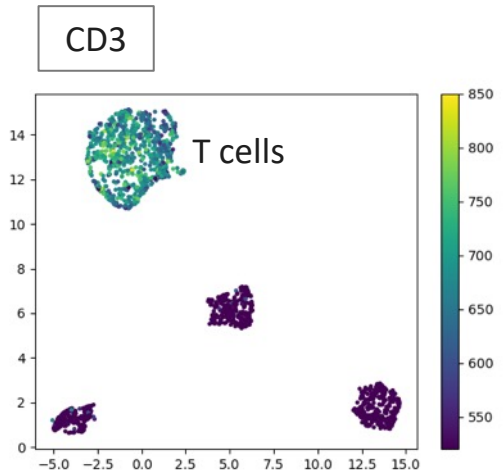
SINGULAR GENOMICS

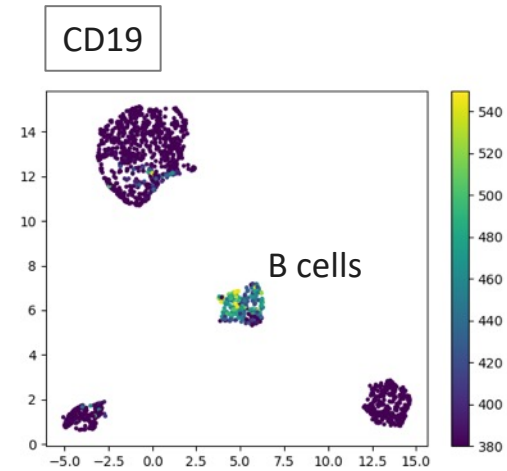
SINGLE CELL PROTEIN IMAGING VIA SEQUENCING

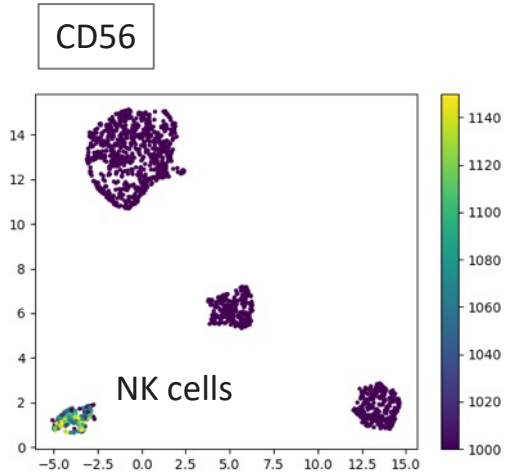
EXAMPLE OF MULTIPLEXING IMAGING OF 8 PROTEINS IN BLOOD CELLS



Green: T cells (CD3+, C) Red: B cells (CD19+, A)







- Sample: White blood cells (PBMC)
- Markers: 8 cell surface proteins (CD3, CD14, CD19, CD32,CD45RA, CD56, CD279, HLA-DR)
- Multi-dimensional clustering clearly differentiates cell types

SINGULAR GENOMICS

DESIGNED TO ADDRESS BROAD APPLICATIONS IN SINGLE CELL AND TISSUE ANALYSIS

Focus area	Description	Uses
Single cell RNA counting for differential gene expression	Targeted gene panels	• Custom panels for specific research areas and diagnostic applications • Measures gene transcription within each cell • Imaging readout of cell morphology
Single cell proteomics	Targeted protein panels	• Custom panels for specific research areas and diagnostic applications • Measures intracellular and surface proteins
Single cell RNA sequencing for variant detection	In situ sequencing of selected gene targets	• Sequences directly within each cell while simultaneously providing phenotype data • Can interrogate binding of antigens to B cells
Spatial RNA and proteomics applications for tissue in development	Targeted gene and protein panels	• Specific basic and translational research applications • Measures gene transcription and protein expression within tissue • Can link this information to additional phenotypic data for broader biological context

COMMERCIALIZATION STRATEGY

SINGULAR GENOMICS

GO TO MARKET STRATEGY

Deliver a more powerful platform + novel kits/content to offer something no one else can!

Pre-Commercial

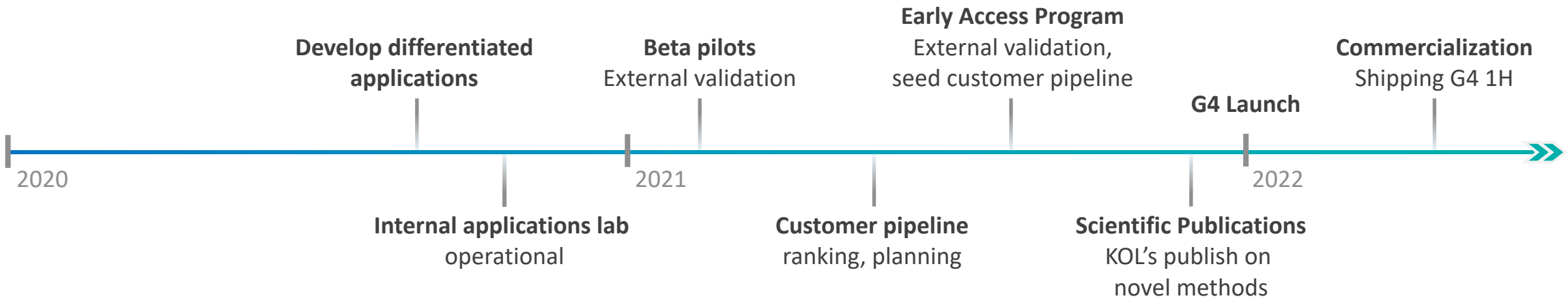
- Develop novel kits & content (HD-Seq, SLR)
- Beta pilots, 3rd party validation
- Build customer pipeline

Commercial Buildout / Go To Market

- Build direct sales force, major markets first
- Leverage beach-head applications
- Early access program

Widespread Adoption

- Demonstrate superior technology, unique solutions
- Streamlined workflows
- Platinum customer support



FINANCIAL OVERVIEW AS OF Q2 2021

DISCIPLINED INVESTMENT HAS DRIVEN CAPITAL EFFICIENCY

$450M | Cash raised to date

$78M | Cash burn to date

$372M | Cash and investments

2 | **Systems in development**
Robust R&D engine driving innovations
G4 launching 2021YE, shipping 1H 2022
PX early access 2022, launching 2023

74 | **Issued patents and patent applications**

169 | **Headcount as of June 30**
Commercial leadership on board
Industry veterans in Operations
Multi-discipline R&D team

THANK YOU!